DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

MERCED GATEWAY PROJECT (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30)

Consultant:

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May 2025

Project #240161

Attachment 11

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

This is to advise that the City of Merced Planning Division has prepared a Mitigated Negative Declaration (MND) for the project identified below that is scheduled to be heard at the City of Merced Planning Commission Meeting on Wednesday, **July 9, 2025.**

PLEASE BE ADVISED that the City of Merced will consider the Mitigated Negative Declaration at the Planning Commission meeting to be held on July 9, 2025. Presentations will be made at approximately 6:00 PM. Action on items on the Planning Commission agenda will occur after the presentations. The meeting will be held in the Merced Civic Center located at 678 W. 18th Street, Merced, CA 95340. The City of Merced City Council will take final action to approve or deny a General Plan Amendment upon recommendation by the Planning Commission. A public hearing for the City Council shall be held at a later date.

Project Name

Merced Gateway Project (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30)

Project Location

The proposed project is located in the City of Merced (City; Assessor's Parcel Number [APN] 061-710-009, a portion of 061-710-023, and 061-680-001). The proposed project site is approximately 73.7 acres and is generally bounded by East Gerard Avenue to the north, East Mission Avenue to the south, South Coffee Street to the west, and Campus Parkway to the east. The project site will be bifurcated by Campus Parkway, with portions of both commercial and residential on either side of the roadway.

Regional access to the project site is provided by State Route 99 (SR), and SR 140. The site is located within Section 32, Township 7S, Range 14E Mount Diablo Base and Meridian (MDB&M), of the Merced U.S. Geological Survey (USGS) Quad Map.

General Plan/Zoning

The project site is currently designated Business Park and Manufacturing/Industrial and zoned B-P (Business Park) and I-H (Heavy Industrial) by the City of Merced General Plan.

Project Description

The proposed project, Merced Gateway (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30), includes the entitlement and development of almost 570 single-family residential lots, the future development of a 9-acre commercial area, and 3.0 acres of open space/park within the city limits of the City of Merced.

Residential Component:

Phase 1: the northerly portion of the site includes 328 residential lots and 2.4 acres of park space on the eastern boundary of the site. The designated commercial area will be approximately 4.35 acres on the north side of Campus Parkway.

Phase 2: the southerly portion of the site includes 242 residential lots and a 0.6 ac park along the easterly boundary of the site. The designated commercial area will be approximately 4.65 acres in size.

A total of 570 lots are proposed on an approximately 61.7 acres portion of the 73.7-acre site, resulting in a residential density of 8.02 dwelling units per acre. Lot sizes for the residential area will vary and include lot sizes ranging between 2,375 square feet to over 6,559 square feet.

Commercial Component:

There is no proposed commercial tenant at this time, and this component is expected to be developed at a later date.

The commercial areas can be developed with a mixture of business park, general retail and office space. In order to adequately analyze the project, it will be assumed that the northerly commercial area will be developed with approximately 27,225 square feet of general retail and 27,225 square feet of office space. The southerly commercial area is assumed to be developed with approximately 22,325 square feet of general retail space and 22,325 square feet of office space.

Based on these assumptions, the Floor Area Ratio (FAR) is 0.25 (99,100 square feet of commercial and office space / 392,040 square feet of total commercial area).

Entitlements:

The project proponent is requesting approval of the following land use entitlements:

- Amendment of the Land Use Designation of the Merced General Plan to change the land use map code designation of the proposed residential areas from Business Park and Manufacturing/Industrial to Low-Medium Density Residential and High-Medium Density Residential (General Plan Amendment #24-03, Figure 1-5.)

- Zone Change from B-P and I-H (Heavy Industrial) of the proposed residential areas to RP-D (Zoning Change #435 and Residential Planned Development #83)

- Approval of Vested Tentative Subdivision Map (VSTM) #1333

The document and studies referenced in the Initial Study/Mitigated Negative Declaration are available for review at City of Merced Planning Department located at 678 West 18th Street, Merced, CA 95340.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on May 29, 2025, and ended on June 28, 2025. For further information, please contact Jonnie Lan, AICP, Interim Planning Manager, City of Merced at lanj@cityofmerced.org.

Table of Contents

List of Acronyms and Abbreviations ..... *iv*

Mitigated Negative Declaration ..... *Error! Bookmark not defined.*

SECTION 1 - Introduction *1*

1.1 - Overview 1
1.2 - California Environmental Quality Act 1
1.3 - Impact Terminology 1
1.4 - Document Organization and Contents 2
1.5 - Incorporated by Reference 2

SECTION 2 - Project Description *2-1*

2.1 - Introduction 2-1
2.2 - Project Location 2-1
2.3 - Project Environment 2-1
2.4 - Proposed Project 2-1

SECTION 3 - Initial Study *3-1*

3.1 - Environmental Checklist 3-1
3.2 - Environmental Factors Potentially Affected 3-4
3.3 - Determination 3-4
3.4 - Evaluation of Environmental Impacts 3-6
3.4.1 - Aesthetics 3-8
3.4.2 - Agriculture and Forestry Resources 3-12
3.4.3 - Air Quality 3-16
3.4.4 - Biological Resources 3-27
3.4.5 - Cultural resources 3-50
3.4.6 - Energy 3-54
3.4.7 - Geology and Soils 3-58
3.4.8 - Greenhouse Gas Emissions 3-65
3.4.9 - Hazards and Hazardous Materials 3-70
3.4.10 - Hydrology and Water Quality 3-77
3.4.11 - Land Use and Planning 3-86
3.4.12 - Mineral Resources 3-89
3.4.13 - Noise 3-91
3.4.14 - Population and Housing 3-99
3.4.15 - Public Services 3-102
3.4.16 - Recreation 3-107
3.4.17 - Transportation 3-109
3.4.18 - Tribal Cultural Resources 3-116

3.4.19 - Utilities and Service Systems 3-118
3.4.20 - Wildfire 3-124
3.4.21 - Mandatory Findings of Significance 3-127

SECTION 4 - List of Preparers 4-1

SECTION 5 - Bibliography 5-1

SECTION 6 - Mitigation Monitoring and Reporting Program 6-1

Appendices

Appendix A – Air Quality and Greenhouse Gas Impact Assessment
Appendix B – Biological Evaluation
Appendix C – Cultural Resources Study and Evaluation
Appendix D – Phase I Environmental Site Assessment
Appendix E – Water Supply Assessment
Appendix F – Acoustical Analysis
Appendix G – Transportation Impact Study

List of Figures

Figure 1-1 Regional Location 3
Figure 1-2 Project Site 4
Figure 1-3 Tentative Tract Layout 2-1
Figure 1-4 Existing General Plan Designations 2-1
Figure 1-5 Proposed General Plan Designation 2-1
Figure 1-6 Existing Zoning 2-2
Figure 1-7 Proposed Zoning 2-3
Figure 3. 4. 4-1 NHD-NWI 3-45

List of Tables

Table 3.4.3-1 3-20
Table 3.4.3-2 3-21
Table 3.4.3-3 3-22
Table 3.4.3-4 Health Risk from Project Construction 3-24
Table 3.4.3-5 Health Risk from Project Construction with Mitigation 3-25
Table 3.4.4-1 Lists of Special Status Species That Could Occur in the Project Vicinity 3-28
Table 3.4.6-1 Estimated Energy Use 3-55
Table 3.4.8-1 Project GHG Emissions 3-65
Table 3.4.10-1 3-80
Table 3.4.10-2 3-80
Table 3.4.10-3 3-80

Table 3.4.13-1 Comparison of Measured and Predicted Noise Levels, Merced Gateway Residential Development 3-93
Table 3.4.13-2 Modeled Traffic Noise Exposure Levels, dB, Ldn 3-94
Table 3.4-3 Typical Vibration Levels for Construction Equipment 3-96
Table 3.4.17-1 Project Trip Generation 3-111
Table 3.4.17-1 Intersection Operations 3-112

LIST OF ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
AB	Assembly Bill
AF	acre feet
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor Parcel Number
AQAP	Air Quality Attainment Plan
AQP	Air Quality Plans
BACT	Best Available Control Technology
BAU	Business as Usual
BE	Biological Evaluation
BMP	Best Management Practices
BPS	Best Performance Standard
CalGEM	California Geologic Energy Management Division
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCaIC	Central California Information Center
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	Decibels
DWR	Department of Water Resources
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
FAR	Floor Area Ratio
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
GHw	millions of kilowatts per hour
HC	Hydrocarbon
HMBP	Hazardous Materials Business Plan
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
ITE	Institute of Transportation Engineers
Ldn	Day-Night Average Level

Leq	equivalent energy sound level
LOS	Level of Service
LRA	Local Responsibility Area
MCAG	Merced County Association of Governments
MCDEH	County of Merced Division of Environmental Health
MDB&M	Mount Diablo Base and Meridian
MIUGSA	Merced Irrigation Urban Groundwater Sustainability Agency
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
MMBTU	millions of therms
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MTCO2eq./year	Metric Tons of Carbon Dioxide Equivalent per year
NAHC	Native American Heritage Commission
NLR	noise level reduction
NOx	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
O3	Ozone
PG&E	Pacific Gas and Electric Company
PM10	particulate matter of 10 micrometers or less
PM2.5	particulate matter of 2.5 micrometers or less
PPV	peak particle velocity
RHNA	Regional Housing Needs Allocation
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAQMD	South Coast Air Quality Management District
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOI	Sphere of Influence
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan

MITIGATED NEGATIVE DECLARATION

As Lead Agency under CEQA, the City of Merced Planning Department has reviewed the project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, "[s]ignificant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Project Name

Merced Gateway Project (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30)

Project Location

The proposed project is located in the City of Merced (City; Assessor's Parcel Number [APN] 061-710-009, 061-710-023, and 061-680-001; Figure 1-1 and 1-2). The proposed project site is approximately 73.7 acres and is generally bounded by East Gerard Avenue to the north, East Mission Avenue to the south, South Coffee Street to the west, and Campus Parkway to the east. The project site will be bifurcated by Campus Parkway, with portions of both commercial and residential on either side of the roadway.

Regional access to the project site is provided by State Route 99 (SR), and SR 140. The site is located within Section 32, Township 7S, Range 14E Mount Diablo Base and Meridian (MDB&M), of the Merced U.S. Geological Survey (USGS) Quad Map.

Project Description

The proposed project, Merced Gateway (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30), includes development of 570 single-family residential lots, the future development of a 9-acre commercial area, and 3.0 acres of open space/park within the city limits of the City of Merced (Figure 1-3).

Residential Component:

Phase 1: the northerly portion of the site includes 328 residential lots and 2.4 acres of park space on the eastern boundary of the site. The designated commercial area will be approximately 4.35 acres on the north side of Campus Parkway.

Phase 2: the southerly portion of the site includes 242 residential lots and a 0.4 ac park along the easterly boundary of the site. The designated commercial area will be approximately 4.65 acres in size.

A total of 570 lots are proposed on an approximately 61.7 acres portion of the 73.7-acre site, resulting in a residential density of 8.02 dwelling units per acre. Lot sizes for the residential

area will vary and include lot sizes ranging between 2,375 square feet to over 6,559 square feet.

Commercial Component:

There is no proposed commercial tenant at this time, and this component is expected to be developed at a later date.

The commercial areas can be developed with a mixture of general retail and office space. In order to adequately analyze the project, it will be assumed that the northerly commercial area will be developed with approximately 27,225 square feet of general retail and 27,225 square feet of office space. The southerly commercial area is assumed to be developed with approximately 22,325 square feet of general retail space and 22,325 square feet of office space.

Based on these assumptions, the Floor Area Ratio (FAR) is 0.25 (99,100 square feet of commercial and office space / 392,040 square feet of total commercial area).

Entitlements:

The project proponent is requesting approval of the following land use entitlements:

- Amendment of the Land Use Designation of the Merced General Plan to change the land use map code designation of the proposed residential areas from Business Park and Manufacturing/Industrial to Low-Medium Density Residential and High-Medium Density Residential (General Plan Amendment #24-03, Figure 1-4 and 1-5)

- Zone Change from B-P and I-H (Heavy Industrial) of the proposed residential areas to RP-D (Zoning Change #435 and Residential Planned Development #83, Figure 1-6 and 1-7).

- Approval of Vested Tentative Subdivision Map (VSTM) #1333

The document and documents referenced in the Initial Study/Mitigated Negative Declaration (IS/MND) are available for review at City of Merced Planning Department located at 678 West 18th Street, Merced, CA 95340.

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on May 29, 2025, and ended on June 28, 2025. For further information, please contact Jonnie Lan, AICP, Interim Planning Manager, at lanj@cityofmerced.org.

Mailing Address and Email of Contact Person

City of Merced, Planning Department
678 W. 18th Street

Merced, CA 95340
Contact Person: Jonnie Lan, AICP
Email: lanj@cityofmerced.org

Findings

As Lead Agency, the City of Merced Planning Department finds that the project will not have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) *(see Section 3 - Environmental Checklist)* identified one or more potentially significant effects on the environment, but revisions to the project have been made before the release of this Mitigated Negative Declaration (MND) or mitigation measures would be implemented that reduce all potentially significant impacts less-than-significant levels. The Lead Agency further finds that there is no substantial evidence that this project would have a significant effect on the environment.

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

MM AQ-1: The project contractor or project representatives shall ensure that all off-road diesel-powered construction equipment meets the CARB Tier 4 emissions standards or equivalent.

BIO-1: a) A pre-construction clearance survey of the project site shall be conducted for special-status wildlife species and nesting migratory birds and raptors. The survey shall occur no less than 14-30 days prior to the start of construction activities. If construction is delayed beyond 30 days from the time of the survey, then another survey shall be conducted. The survey shall be conducted by a qualified biologist with adequate training and prior experience conducting surveys for special-status wildlife species. If no special-status species or migratory birds/raptors or their sign are observed, no further action is warranted. A report outlining the results of the clearance survey shall be provided to the Lead Agency as evidence of compliance.

b) If dens/burrows/nests that could support any of these special-status species are discovered during the preconstruction survey, the avoidance buffers outlined below shall be established, and den or burrow monitoring shall be conducted in accordance with the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and U.S. Fish and Wildlife Service (USFWS) *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbanc*e (U.S. Fish and Wildlife Service, 2011).

Den(s) or burrow(s) shall be monitored using trail cameras or tracking mediums such as diatomaceous earth. If no species are detected for a minimum of four consecutive days/nights, the den or burrow may be burrow-scoped and plugged with a filled sandbag under the direct supervision of a qualified biologist. All tunnels must be examined for animal presence before plugging with a sandbag to ensure no burrowing owls, kit foxes, or other animals are hiding inside.

No work shall occur within these buffers unless the biologist approves and monitors the activity. A copy of the preconstruction survey report shall be submitted to the Lead Agency as evidence of compliance.

Burrowing Owl (active burrows)

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

American badger/SJKF

Potential or Atypical den – 50 feet
Known den – 100 feet
Natal Den –Contact CDFW for consultation

BIO-2: If construction is planned during the nesting season for migratory birds and raptors (February 15 to August 31) and nesting birds are identified during the preconstruction survey, active Swainson's hawk nests shall be avoided by 0.5 miles, other raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified biological monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds.

BIO-3: If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this project. Based on this assessment, the biologist will determine if construction activities can proceed, and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest, but depending on conditions at the site, this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist.

BIO-4: Prior to the initiation of construction activities, all personnel shall attend a Worker Environmental Awareness Training program developed by a qualified biologist. The program shall include information on the life histories of special-status species with the

potential to occur on the project, their legal status, the course of action shall these species be encountered on-site, and avoidance and minimization measures to protect these species.

BIO-5: The following measures shall be implemented during all phases of the project to reduce the potential for impact from the project.

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.

b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour within the project site. A 10-mile-per-hour speed limit shall be implemented during night-time construction activities.

c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted, and USFWS and CDFW shall be consulted for guidance.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater 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 USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.

f. No fueling of construction equipment will occur within 100 feet of a drainage, water crossing, or wetlands. If a spill or pipe break occurs within 100 feet of any water feature, adherence to the CREH Spill Prevention, Control, and Countermeasure (SPCC) Plan will be followed.

g. Use of anticoagulant rodenticides and herbicides in project sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe labels and other restrictions mandated by the EPA, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

h. A representative shall be appointed by the project proponent, who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program, and their name and telephone number shall be provided to the USFWS.

i. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to an SJKF during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov. The BLM will also be informed about those wells on the Split Estate property.

j. All sightings of the SJKF shall be reported to the CNDDB. A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the USFWS at the address below.

k. Any project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.

l. A copy of the pre-construction survey report shall be submitted to the Lead Agency as evidence of compliance.

BIO-6: Prior to the issuance of any grading or building permit, the Project proponent/developer shall submit a formal notification to the US Army Corps of Engineers (ACOE), Water Resources Control Board (SWRCB) and California Department of Fish and Wildlife (CDFW). If no comments or requests for additional permitting are received by the agencies, no further action is necessary. A copy of all correspondence shall be submitted to the lead agency.

If a regulatory agency comments or requests additional permitting, the following actions may be taken. A copy of all correspondence and subsequent permitting and/or reports shall

be made available to the Lead Agency. The report shall include information as shown below as a plan if necessary and shall outline compliance with the following:

1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form.

2. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (Central Valley Regional Water Quality Control Board (RWQCB), CDFW and US Army Corps of Engineers (USACE) shall be obtained prior to disturbance to jurisdictional features.

   If it is determined that drainage is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement under Section 1602 from the CDFW, if required prior to impacting any waters.

   As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Mitigation and Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact, monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.

3. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).

4. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features.

5. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all

spills, the project foreman or designated environmental representative shall be notified.

MM CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed project would not cause a substantial adverse change in the significance of a historical resource.

CUL-2: In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the developer and City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines.

If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and required to the developer and City. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur around the discovery until the lead agency approves the measures to protect these resources.

Any prehistoric archaeological artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study

MM CUL-3: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of a discovery of human remains, at the direction of the county coroner.

MM GEO-1: If the proposed development will disturb an area of one or more acres, prior to issuing of grading or building permits, the project applicant shall submit to the City; (1) the approved Stormwater Pollution Prevention Plan (SWPPP) and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended Best Management Practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly.
- Protecting existing storm drain inlets and stabilizing disturbed areas.
- Implementing erosion controls.
- Properly managing construction materials.
- Managing waste, aggressively controlling litter, and implementing sediment control.

MM GEO-2: If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist, as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or another appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource-appropriate measures are recommended, or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

MM NSE-1: A sound wall shall be constructed to a minimum height of 7 feet above ground level along the residential portions of the project site that are directly adjacent to Campus Parkway. Suitable construction materials include concrete blocks, masonry, or stucco on both sides of a wood or steel stud wall.

MM NSE-2: Two-story home construction of lots that will be directly adjacent with Campus Parkway shall be constructed without second-floor balconies. A note prohibiting such second-floor balconies shall be placed as a Note on the VSTM #1333, and all plans and specs.

MM NSE-3: Air conditioning or mechanical ventilation shall be installed in the units so that it will be possible for windows and doors to remain closed for sound insulation purposes.

MM NSE-4: Unless further restricted in the City of Merced Municipal Code, grading and construction shall not take place beyond the hours of 7:00 A.M. and 7:00 P.M. Monday-Sunday.

MM TRA-1: The project proponent shall pay its equitable share costs percentages for intersection improvements pertaining to the storage pocket length at the northbound right approach at the Mission Avenue and SR 99 NB Off-Ramp intersection.

Payment amount of the equitable share costs shall be determined by the City of Merced and Caltrans and paid prior to issuance of building permits or at a time determined by the Lead Agency. The equitable share cost percentage shall be 7.7% for AM Peak Hour and 13% for PM Peak Hour.

SECTION 1 - INTRODUCTION

1.1 - Overview

Lennar Homes of California (Applicant) proposes the Merced Gateway Subdivision (project), on an approximately 73.7-acre project site in the City of Merced, Merced County, CA. The project proposes to amend the City of Merced General Plan to designate an approximately 61.7-acre portion of the project site from Business Park and Manufacturing/Industrial to Low-Medium Density Residential and High-Medium Density Residential, and a zone change from B-P (Business Park) to RP-D (Residential Planned Development) to allow construction of a 570-lot single-family subdivision and approximately 2.8 acres of park/open space.

The remaining approximately 9-acre commercial area will remain designated as Business Park under the General Plan and zoned B-P. Figure 1-1 shows the regional location, Figure 1-2 shows the project location and Figure 1-3 illustrates the layout of the Tentative Map.

1.2 - California Environmental Quality Act

The City of Merced is the Lead Agency for this project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or IS (see *Section 3 – Initial Study*) provides analysis that examines the potential environmental effects of the construction and operation of the project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary project will have a significant effect on the environment. A MND is appropriate when an IS has been prepared, and a determination can be made that no significant environmental effects will occur because revisions to the project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see *Section 6 – Mitigation Monitoring and Reporting Program*).

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can be completed with an MND.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of "no impact" is appropriate if the analysis concludes that the project would not affect a topic area in any way.
- An impact is considered "less than significant" if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered "less than significant with mitigation incorporated" if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the applicant.

- An impact is considered "potentially significant" if the analysis concludes that it could have a substantial adverse effect on the environment.

1.4 - Document Organization and Contents

The content and format of this Initial Study/Mitigated Negative Declaration (IS/MND) is designed to meet the requirements of CEQA. The report contains the following sections:

- *Section 1 – Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- *Section 2– Project Description:* This section describes the project and provides data on the site's location.
- *Section 3 – Initial Study:* This section contains the evaluation of 21 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed project would have an impact. One of four findings is made which include: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 21 environmental resource factors, then an Environmental Impact Report will be required.
- *Section 4 – List of Preparers:* This section identifies the individuals who prepared the IS/MND.
- *Section 5 – Bibliography:* This section contains a full list of references that were used in the preparation of this IS/MND.
- *Section 6 – Mitigation Monitoring and Reporting Program:* This section contains the Mitigation Monitoring and Reporting Program.

1.5 - Incorporated by Reference

The following documents and/or regulations are incorporated into this IS/MND by reference:

- City of Merced Vision 2030 General Plan
- City of Merced Draft General Plan Environmental Impact Report (EIR)
- Merced Municipal Code - Title –0 Zoning Ordinance
- Merced County Airport Land Use Compatibility Plan
- City of Merced 2020 Urban Water Management Plan
- Merced Groundwater Subbasin Groundwater Sustainability Plan

Figure 1-1
Regional Location

Figure 1-2
Project Site

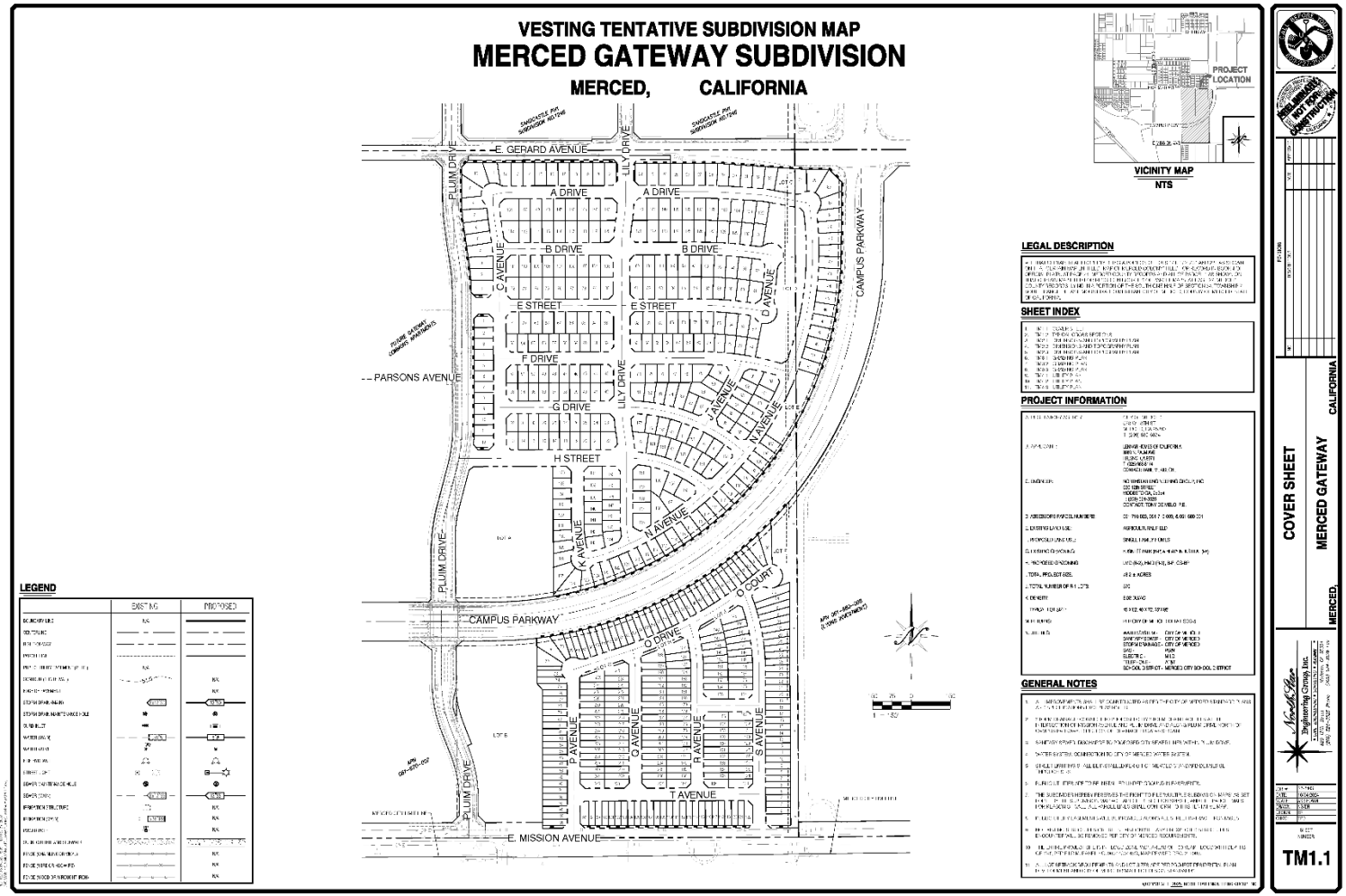


Figure 1-3
Tentative Tract Layout

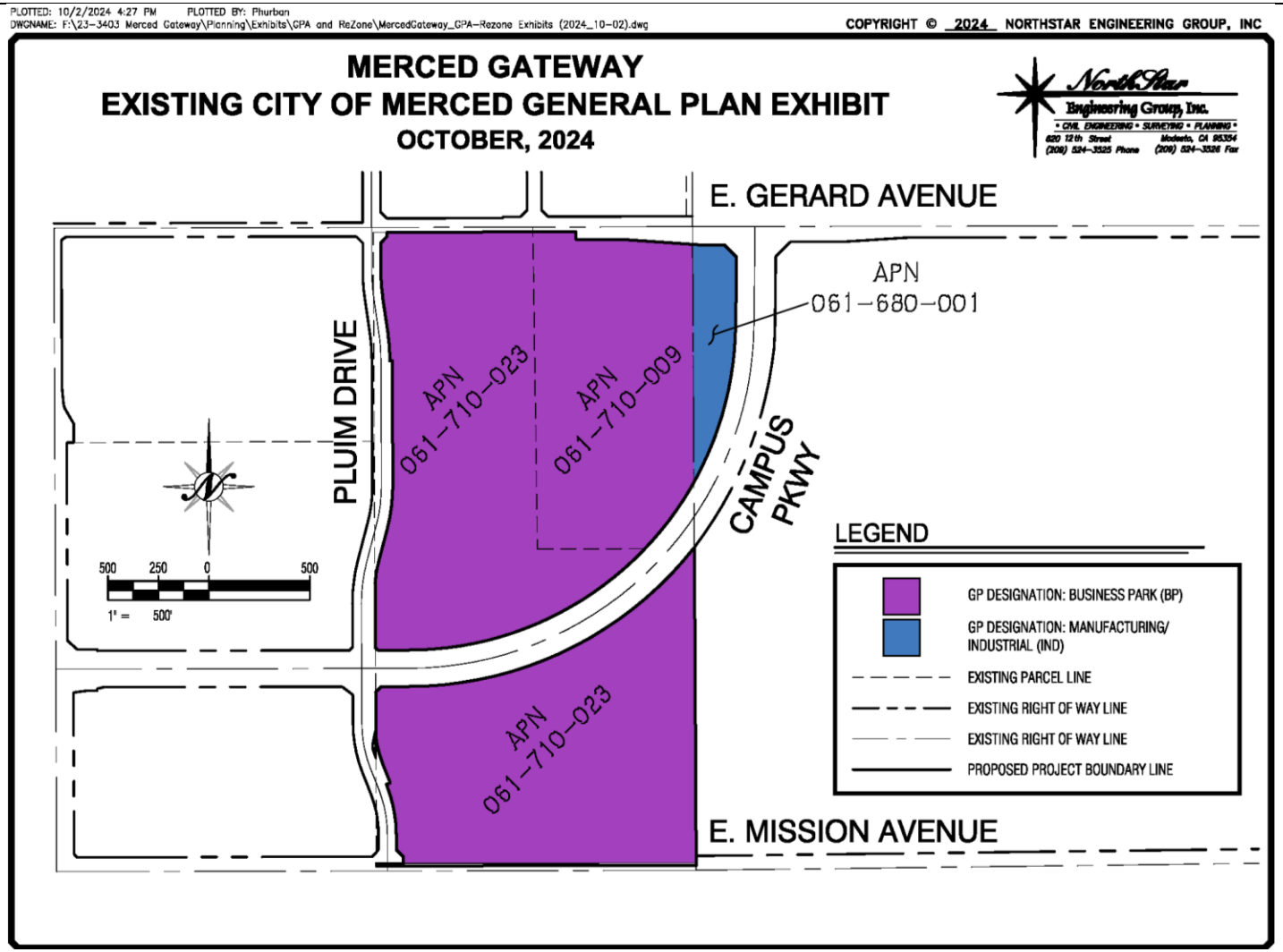


Figure 1-4
Existing General Plan Designations

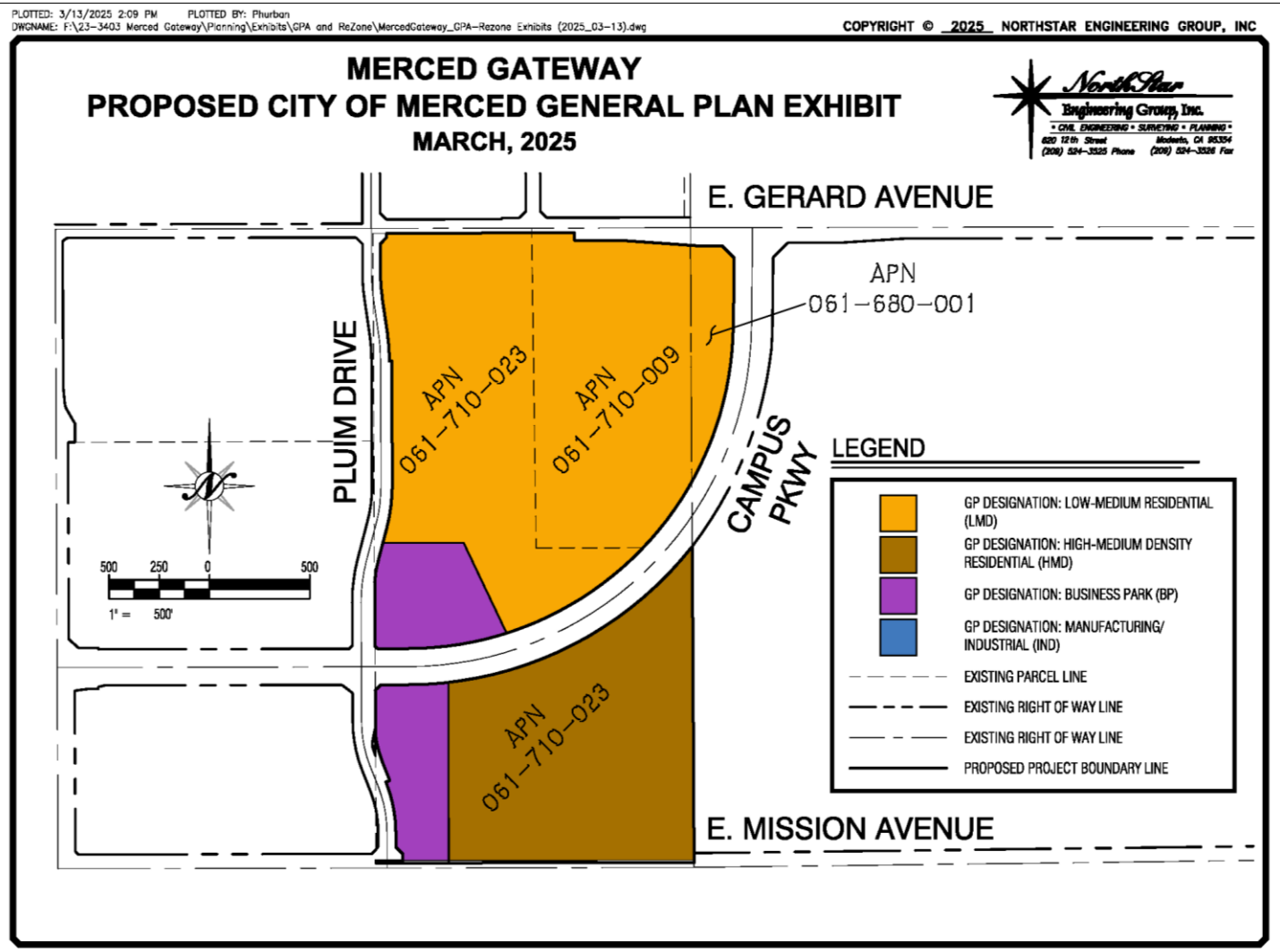


Figure 1-5
Proposed General Plan Designation

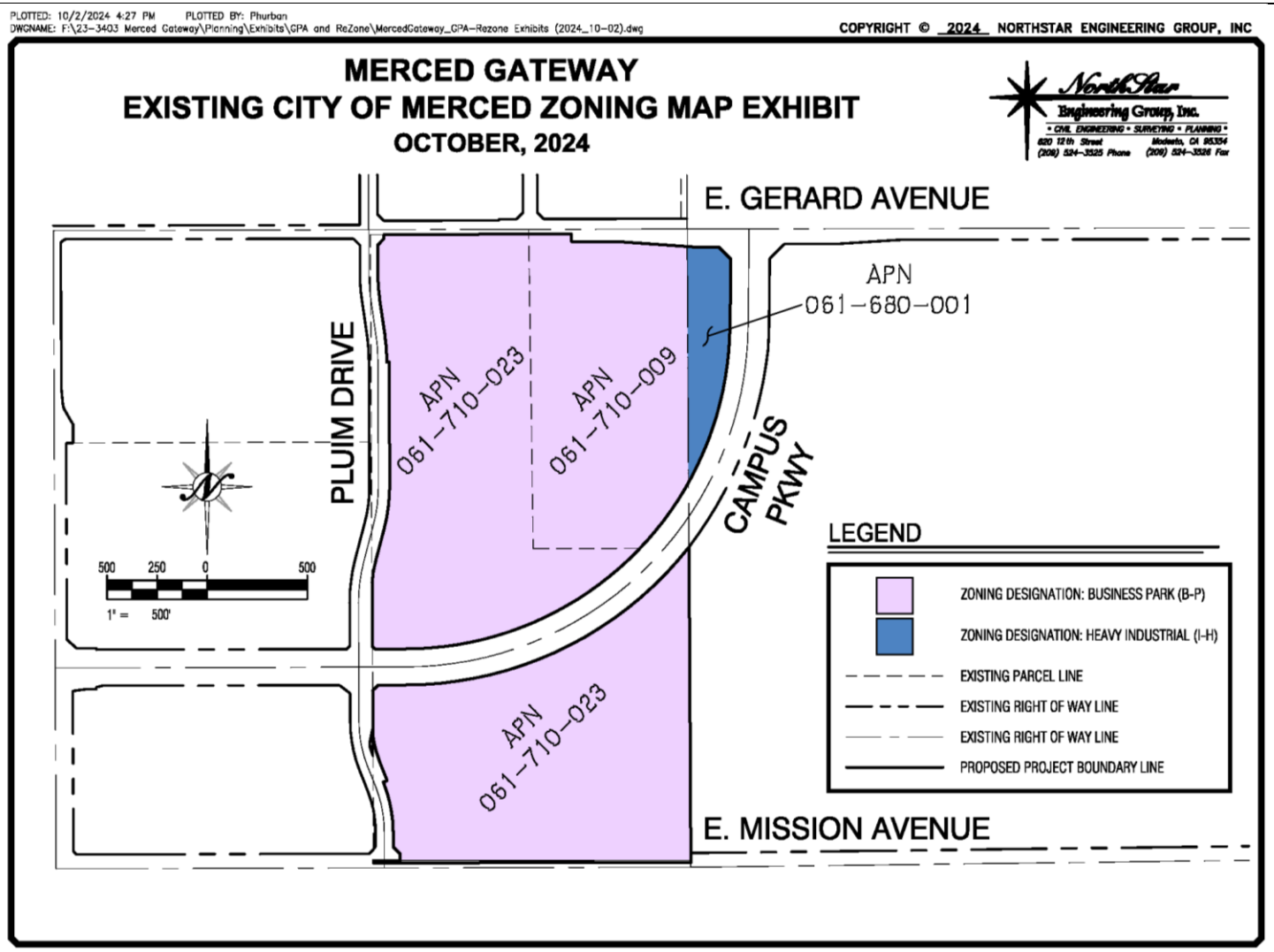


Figure 1-6
Existing Zoning

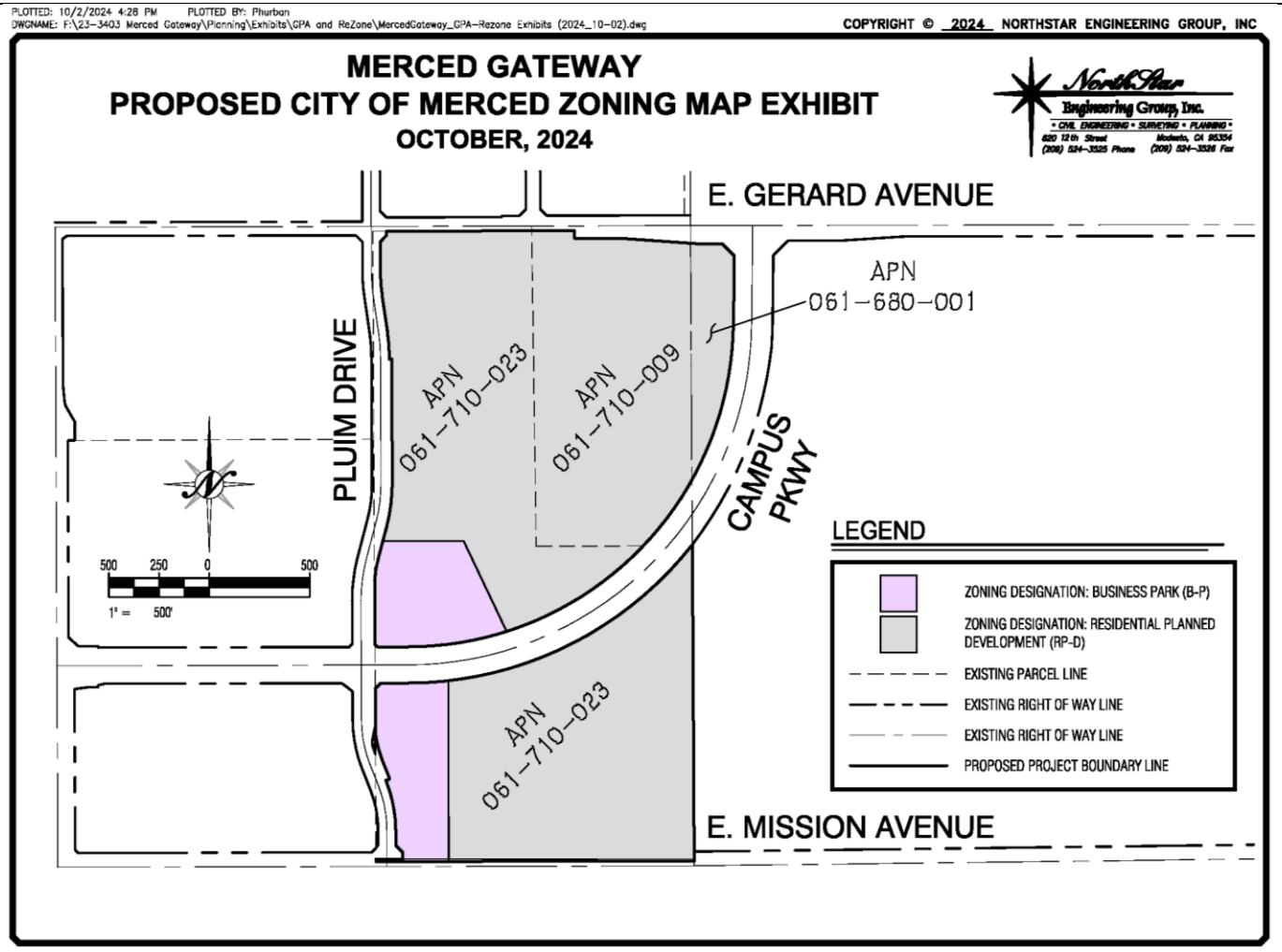


Figure 1-7
Proposed Zoning

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

Lennar Homes of California (Applicant) proposes the Merced Gateway Subdivision Project on an approximately 73.7-acre project site in the City of Merced, Merced County, CA. Figure 1 1 shows the regional location, Figure 1 2 shows the project location and Figure 1-3 depicts the proposed tentative tract.

2.2 - Project Location

The proposed project is located in the City of Merced (City; Assessor's Parcel Number [APN] 061-710-009, 061-710-023, and 061-680-001). The proposed project site is approximately 73.7 acres and is generally bounded by East Gerard Avenue to the north, East Mission Avenue to the south, South Coffee Street to the west, and Campus Parkway to the east. The project site will be bifurcated by Campus Parkway, with portions of both commercial and residential on either side of the roadway.

Regional access to the project site is provided by State Route 99 (SR), and SR 140. The site is located within Section 32, Township 7S, Range 14E Mount Diablo Base and Meridian (MDB&M), of the Merced U.S. Geological Survey (USGS) Quad Map.

2.3 - Project Environment

The project site is currently undeveloped land. The property is bounded by East Gerard Avenue and residential to the north, agricultural land to the east, residential and agricultural land to the south and commercially developed and vacant land to the west.

2.4 - Proposed Project

The proposed project, Merced Gateway (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30), includes development of 570 single-family residential lots, the future development of 9-acres of commercial area, and 3.0 acres of open space/park within the city limits of the City of Merced.

Residential Component:

Phase 1: the northerly portion of the site includes 328 residential lots and 2.4 acres of park space on the eastern boundary of the site. The designated commercial area will be approximately 4.35 acres on the north side of Campus Parkway.

Phase 2: the southerly portion of the site includes 242 residential lots and a 0.6 ac park along the easterly boundary of the site. The designated commercial area will be approximately 4.65 acres in size.

A total of 570 lots are proposed on an approximately 61.7-acre portion of the 73.7-acre site, resulting in a residential density of 8.02 dwelling units per acre. Lot sizes for the residential area will vary and include lot sizes ranging between 2,375 square feet to over 6,559 square feet.

Commercial Component:

There is no proposed commercial tenant at this time, and this component is expected to be developed at a later date.

The commercial areas can be developed with a mixture of general retail and office space. In order to adequately analyze the project, it will be assumed that the northerly commercial area will be developed with approximately 27,225 square feet of general retail and 27,225 square feet of office space. The southerly commercial area is assumed to be developed with approximately 22,325 square feet of general retail space and 22,325 square feet of office space.

Based on these assumptions, the Floor Area Ratio (FAR) is 0.25 (99,100 square feet of commercial and office space / 392,040 square feet of total commercial area).

Entitlements:

The project proponent is requesting approval of the following land use entitlements:

- Amendment of the Land Use Designation of the Merced General Plan to change the land use map code designation of the proposed residential areas from Business Park and Manufacturing/Industrial to Low-Medium Density Residential and High-Medium Density Residential (Figure 1-4 and 1-5).

- Zone Change from B-P and I-H (Heavy Industrial) of the proposed residential areas to RP-D (Residential Planned Development, Figure 1-6 and 1-7).

Approval of Tentative Tract Map VSTM #1333

Construction:

Full buildout of the residential area will take approximately six to seven years after approval and necessary permits are issued. As noted above, development of the commercial area would occur separately from the residential development.

Construction of the residential development would occur over a maximum of seven years. It is anticipated that the following pieces of equipment would be used during construction activities:

- Roller

- Loaded trucks

- Excavator
- Generator
- Service truck
- Air compressor

SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. **Project Title:**

   Merced Gateway Project (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30)

2. **Lead Agency Name and Address:**

   City of Merced Planning Department
   6787 W. 18th Street
   Merced, CA 95340

3. **Contact Person and Phone Number:**

   Jonnie Lan, AICP, Interim Planning Manager
   STAFF PHONE 209.385.4768

4. **Project Location:**

   The proposed project (APN 061-710-009, a portion of 061-710-023, and 061-680-001) is approximately 73.7 acres and is generally bounded by East Gerard Avenue to the north, East Mission Avenue to the south, South Coffee Street to the west, and Campus Parkway to the east. The project site will be bifurcated by Campus Parkway, with portions of both commercial and residential on either side of the roadway.
   Regional access to the project site is provided by State Route 99 (SR), and SR 140. The site is located within Section 32, Township 7S, Range 14E Mount Diablo Base and Meridian (MDB&M), of the Merced U.S. Geological Survey (USGS) Quad Map.

5. **General Plan Designation:**

   Existing: Business Park and Manufacturing/Industrial

   Proposed: Low-Medium Density Residential and High-Medium Density Residential

6. **Zoning:**

   Existing: B-P (Business Park) and I-H (Heavy Industrial)

   Proposed: RP-D (Residential Planned Development)

7. **Description of Project:**

The proposed project, Merced Gateway (GPA #24-03, R-PD EST. #83, VTSM #1333, ZC #435, ERC #24-30), includes development of 570 single-family residential lots, the future

development of a 9-acre commercial area, and 3.0 acres of open space/park within the city limits of the City of Merced.

Residential Component:

Phase 1: the northerly portion of the site includes 328 residential lots and a 2.4 acres of park space on the eastern boundary of the site. The designated commercial area will be approximately 4.35 acres on the north side of Campus Parkway.

Phase 2: the southerly portion of the site includes 242 residential lots and a 0.4 ac park along the easterly boundary of the site. The designated commercial area will be approximately 4.65 acres in size.

A total of 570 lots are proposed on an approximately 61.7-acre portion of the 73.7-acre site, resulting in a residential density of 8.02 dwelling units per acre. Lot sizes for the residential area will vary and include lot sizes ranging between 2,375 square feet to over 6,559 square feet.

Commercial Component:

There is no proposed commercial tenant at this time, and this component is expected to be developed at a later date.

The commercial areas can be developed with a mixture of general retail and office space. In order to adequately analyze the project, it will be assumed that the northerly commercial area will be developed with approximately 27,225 square feet of general retail and 27,225 square feet of office space. The southerly commercial area is assumed to be developed with approximately 22,325 square feet of general retail space and 22,325 square feet of office space.

Based on these assumptions, the Floor Area Ratio (FAR) is 0.25 (99,100 square feet of commercial and office space / 392,040 square feet of total commercial area).

Entitlements:

The project proponent is requesting approval of the following land use entitlements:

- Amendment of the Land Use Designation of the Merced General Plan to change the land use map code designation of the proposed residential areas from Business Park and Manufacturing/Industrial to Low-Medium Density Residential and High-Medium Density Residential (Figure 1- 4 and Figure 1-5).

- Zone Change from B-P and I-H (Heavy Industrial) of the proposed residential areas to RP-D (Residential Planned Development, Figure 1-6 and 1-7).

Approval of Tentative Tract Map VSTM #1333

8. Surrounding Land Uses and Setting:

The project site is currently undeveloped land. The property is bounded by East Gerard Avenue and residential to the north, agricultural land to the east, residential and agricultural land to the south and commercially developed and vacant land to the west.

9. Other Public Agencies Whose Approval May be Required:

- California Department of Fish and Wildlife
- California State Water Resources Control Board
- San Joaquin Valley Air Pollution Control District
- US Army Corps of Engineers

3.2 - Environmental Factors Potentially Affected

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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology / Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities / Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

3.3 - Determination

On the basis of this initial evaluation:

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

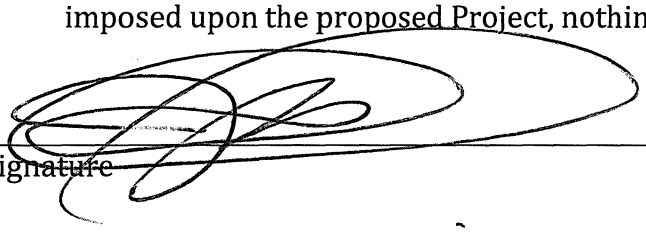
☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed

adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.



Signature

5/23/2025

Date

Jonnie Law, AICP

Printed Name

City of Merced

For

3.4 - Evaluation of Environmental Impacts

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

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

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

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The Lead Agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

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

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

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

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

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

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

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

9. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

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

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.1 - AESTHETICS					
Except as provided in Public Resources Code Section 21099, would the Project:					
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c.	In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

Impact #3.4.1a – Would the Project have a substantial adverse effect on a scenic vista?

Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as topography, water courses, rock outcrops, and natural vegetation as well as manmade scenic structures. It is noted the General Plan, that the majority of scenic vistas in vicinity of the City are local, with views of the Sierra Nevada to the east and the Coast Ranges to the west. Additional scenic resources include the corridors of the Merced River, San Joaquin River, Los Banos Creek, and Bear Creek. The project site does not contain high quality views of the Sierra Nevada's or Coast Ranges, and is not located in proximity to the Merced River, San Joaquin River, Los Banos Creek, or Bear Creek.

The General Plan Policy OS-1.3.b identifies several scenic corridors within the city limits along with establishing guidelines for project review of development within a designated scenic corridor under Policy OS-1.3.c. The listed scenic corridors are identified as such due to their part in establishing the City's identity. The following corridors are designated as Scenic Corridors under General Plan Policy OS-1.3.b:

a. North and South Bear Creek Drive within the city limits

b. N Steet from 16th Street to the Merced County Courthouse

c. 21st Street from Merced County Courthouse to Glen Avenue

d. M Street from Black Rascal Creek to Bellevue Road

e. West 28th Street from M Street to G Street

f. Lake Road from Yosemite Avenue to Lake Yosemite

g. R Street (extended) from Black Rascal Creek to Bellevue Road

h. Olive Avenue East of McKee Road

i. M Street from 18th Street to Bear Creek

j. Campus Parkway

k. Bellevue Road from Lake Road to "G" Street

As Campus Parkway bifurcates the project site, compliance with design guidelines established under General Plan Policy OS-1.3.c would be applicable to both the proposed residential development and future commercial development. Further design policies established under the General Plan Urban Design Element, Urban Expansion Element, and Land Use Element contain standards that would reduce any impacts to the scenic corridor. These design standards include the use of low FAR (Policy UD-2.2.b) and maximum residential building heights (Title 20, Chapter 20.08). As previously noted, the project FAR is 0.25 (99,100 square feet of commercial and office space / 396,396 square feet of total commercial area). The residential units will be developed with a variety of floor plans and square footages dependent on their lot location. Square footages for the residential units will range from 1,341 square feet up to 1,855 square feet and be one to two-stories in height.

The sites are not within or in the vicinity of a city, county, or State identified scenic vista. As discussed above, the project site is along Campus Parkway which is an identified scenic corridor and will be required to comply with General Plan Policy OS-1.3.c for corridor design guidelines Furthermore, the development of the project would not block or preclude views of any area containing importance or what would be considered visually appealing landforms. Therefore, with compliance with General Plan policies, a less than significant impact is anticipated on scenic resources.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *less than significant impact.*

Impact #3.4.1b – Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

See Impact #3.4.1a above.

The project does not lie near or within a State Designated or Eligible State Scenic Highway (California Department of Transportation 2024). The nearest Eligible Scenic Highway is SR 49, approximately 29 miles northeast of the project site. The project is devoid of trees; the majority of the property has been under cultivation and does not include the removal of trees determined to be scenic or of scenic value, the destruction of rock outcroppings or degradation of any historic building(s). Therefore, the project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact.*

Impact #3.4.1c – In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

The project site is located in the southeastern boundary of the City. The property is bound by East Mission Avenue to the south, undeveloped commercial land to the west, vacant land to the east, and East Gerard Avenue with residential land to the north. The City zoning map classifies the surrounding parcels to the east as I-H (Heavy Industrial), parcels to the west as P-D (Planned Development), to the north as R-1-5 (Low Density Residential), and land to the south is on zoned A-1 (General Agricultural) under County of Merced jurisdiction.

The proposed project will be subject to the City Zoning Ordinance, which contains development and landscaping standards for commercial and residentially zoned areas. Specifically, project development would comply with Chapter 20.36 of the Zoning Ordinance for landscaping standards, Chapter 20.46 for residential design standards, and Chapter 20.10 for commercial development standards. The proposed project would be developed in similar visual quality to existing residential developments to the north and further to the west and would not substantially degrade the existing visual character of the area.. The project would comply with City of Merced development and landscape standards and would not conflict with applicable zoning and other regulations governing scenic quality.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.1d – Would the Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction of the proposed project would generally occur during daytime hours, typically from 7:00 A.M. to 7:00 P.M.. Policy N-1.3.a limits operating hours for noisy construction used in the City of Merced and Policy N.1.5.f defined daytime as 7:00 A.M. to 10:00 P.M., however, since this policy allows the City to be able to impose noise level standards that are more restrictive, and since there continues to be concerns with construction noise related to nearby occupied residential units, construction of the project will be held to the 7:00 A.M. to 7:00 P.M. timeframe. Increased truck traffic and the transport of construction materials to the project site would also be minimal and temporary in nature. Construction activity would focus on specific areas on the sites, and any sources of glare would not be stationary for a prolonged period of time. Therefore, construction of the proposed project would not create a new source of substantial glare that would affect daytime views in the area.

Once constructed, the project will include exterior lighting for the proposed residences and commercial development. With the compliance of the Merced Zoning Ordinance (Chapter 20.46 for residential design standards and Chapter 20.10.030 for commercial development standards and guidelines), and other applicable local development standards for exterior lighting, the proposed project would not create new sources of substantial light or glare that would adversely affect day or nighttime views in the area. Therefore, project impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Farmland Mapping and Monitoring Program (FMMP) designation of the project site is listed as Farmland of Local Importance (California Department of Conservation 2024). The project site is bounded by Prime Farmland and Farmland of Statewide Importance to the east, Farmland of Local Importance to the west, and Urban and Built-up Land to the north and south.

The project site is currently zoned BP and I-H and is not zoned for agricultural use, and the General Plan already accounted for the conversion of this property to a non-agricultural use. Farmland of Local Importance is not considered important farmland under CEQA, and therefore, conversion of the land, the project would not result in the conversion of Farmland and will result in no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act contract?

The project site is not subject to a Williamson Act land use contract, according to data available from the California Department of Conservation. Additionally, as noted above, the project site is currently zoned BP and I-H and is not zoned for agricultural use. Therefore, the project proposal would not result in a conflict with existing zoning for agricultural use or a Williamson Act contract, and there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***no impact***.

Impact #3.4.2c – Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined

by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The Public Resources Code (PRC) Section 12220(g) and Section 4526 defines "Forest land" as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions and that allows for the management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland, pursuant to PRC 4526, is land other than land owned by the federal government and land designated as experimental forest land, which is available for and capable of growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

There are no forest lands or timberlands identified on the project sites or within its vicinity. The project would not result in the loss or conversion of forest land to a non-forest use. Therefore, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.2d – Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

See discussion of Impact #3.4.2c above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.2e – Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See discussion of Impacts #3.4.2a, #3.4.2b, and #3.4.2c above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.3 - AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d.	Result in other emissions (such as those leading to odor) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

The analyses in this section are based on an *Air Quality and Greenhouse Gas Impact Assessment* (VRPA Technologies, Inc. 2025a), attached as Appendix A. The *Air Quality and Greenhouse Gas Impact Assessment* considered build out of a larger number of residential lots than is currently proposed. Therefore, it can be assumed that the air quality emissions estimates resulting from the project would be less than those discussed in this IS/MND.

Impact #3.4.3a – Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The City is located in the San Joaquin Valley Air Basin (SJVAB). The surrounding topography includes foothills and mountains to the east and west that direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Merced is classified as Mediterranean, with moist cool winters and dry warm summers.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the agency responsible for monitoring and regulating air pollutant emissions from stationery, area, and indirect sources within Merced County and throughout the SJVAB. The district also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. California Air

Resources Board (CARB) is the agency with the legal responsibility for regulating mobile source emissions. The district is precluded from such activities under State law. The district was formed in mid-1991 and prepared and adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), dated January 30, 1992, in response to the requirements of the California Clean Air Act (CCAA). The CCAA requires each non-attainment district to reduce pertinent air contaminants by at least five percent (5%) per year until new, more stringent, 1988 State air quality standards are met. Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the Federal Clean Air Act (FCAA) and CCAA.

The SJVAPCD has prepared the following State Implementation Plans to address ozone, particulate matter of 10 micrometers or less (PM_{10}) and particulate matter of 2.5 micrometers or less ($PM_{2.5}$) that currently apply to non-attainment areas:

- The 2016 Ozone Plan (2008 standard) was adopted by SJVAPCD on June 16, 2016, and subsequently adopted by CARB on July 21, 2016.

- The 2013 1-Hour Ozone Plan (revoked 1997 standard) was adopted by the SJVAPCD on September 19, 2013. EPA withdrew its approval of the plan due to litigation. The district plans to submit a "redesignation substitute" to EPA to maintain its attainment status for this revoked ozone standard.

- The 2007 PM_{10} Maintenance Plan (as revised in 2015) was approved by EPA on July 8, 2016 (effective September 30, 2016).

- The 2012 $PM_{2.5}$ Plan (as revised in 2015) was approved by EPA on August 16, 2016 (effective September 30, 2016).

The SJVAPCD Plans identified above represent SJVAPCD's plan to achieve both State and federal air quality standards. The regulations and incentives contained in these documents must be legally enforceable and permanent. These plans break emissions reductions and compliance into different emissions source categories.

The SJVAPCD also prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI), dated March 19, 2015. The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for

predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

In order to demonstrate that a proposed project would not cause further air quality degradation in either the SJVAPCD's plan to improve air quality within the air basin or the federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for Ozone (O_3) and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The CCAA requires air pollution control districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

State CEQA Guidelines and the FCAA (Sections 176 and 316) contain specific references on the need to evaluate consistency between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. Determination that an AQAP is being implemented in the area where the project is being proposed. The SJVAPCD has implemented the current, modified AQAP as approved by CARB.

2. The proposed project must be consistent with the growth assumptions of the applicable AQAP. The proposed project land use type was not anticipated in the current growth assumptions. Therefore, growth assumptions in the City of Shafter General Plan will be modified with the approval of the proposed project.

3. The project must contain in its design all reasonably available and feasible air quality control measures. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. Merced County Association of Governments (MCAG) uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then vehicle miles traveled (VMT), which are then provided to SJVAPCD to estimate future emissions in the air quality plans (AQP). Existing and future pollutant emissions computed in the AQP are based on land uses from area general plans. AQPs detail the control measures and emission reductions required for reaching attainment of the air standards.

The project is consistent with the currently adopted General Plan and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the project is consistent with the growth assumptions used in the applicable AQPs. As a result, the project will not conflict with or obstruct the implementation of any air quality plans.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Merced County area is nonattainment for federal and State air quality standards for ozone, in attainment of federal standards and nonattainment for State standards for PM_{10}, and nonattainment for federal and State standards for $PM_{2.5}$. The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM_{10} Maintenance Plan, and 2012 $PM_{2.5}$ Plan to achieve federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. The project is consistent with the currently adopted General Plan for the City of Merced and is therefore consistent with the population growth and VMT applied in the plan.

Therefore, the project is consistent with the growth assumptions used in the 2016 and 2013 Ozone Plan, 2007 PM_{10} Maintenance Plan, and 2012 $PM_{2.5}$ Plan.

Project specific emissions that exceed the thresholds of significance for criteria pollutants would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the County is in non-attainment under applicable federal or state ambient air quality standards. It should be noted that a project is not characterized as cumulatively insignificant when project emissions fall below thresholds of significance. The SJVAPCD adopted thresholds of significance for criteria pollutants is given in Table 3.4.3-1 below.

Table 3.4.3-1
SJVAPCD Air Quality Thresholds of Significance – Criteria Pollutants

Criteria Pollutant	Construction Emissions (tons per yr.)	Operational Emissions (tons per yr.)
CO	100	100
NOx	10	10
ROG	10	10
SOx	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

Source: (San Joaquin Air Pollution Control District 2015)

The proposed project would be required to comply with all recommended measures for construction activities listed in the GAMAQI, applicable measures set for in Title 24 of the Uniform Building Code, and applicable SJVAPCD rules.

Short-Term Construction Emissions

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Construction air quality impacts are generally attributable to dust and exhaust pollutants generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities do comprise major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture. Exhaust pollutants are the non-useable gaseous waste products produced during the combustion process. Engine exhaust contains Carbon Monoxide (CO), Hydrocarbons (HC), and Nitrogen Oxides (NOx) pollutants which are harmful to the environment. Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the project area and may require frequent washing during the construction period.

PM_{10} emissions can result from project related construction activities. The SJVAPCD has determined that compliance with Regulation VIII and other control measures will constitute sufficient mitigation to reduce PM_{10} impacts to a level considered less-than significant for most development projects. Even with implementation of District Regulation VIII and District Rule 9510, large development projects may not be able to reduce project specific construction impacts below District thresholds of significance.

SJVAPCD's required measures for all projects were also applied:

- Water exposed areas three times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 3.4.3-2 below summarizes the anticipated pollutant emissions resulting from construction of the proposed project. Development of the proposed project is anticipated to generate criteria pollutant emissions below SJVAPCD significance threshold levels.

Table 3.4.3-2
Construction Emissions

Emissions Sources	Pollutant (tons/year)					
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Project Construction Emissions	3.58	2.76	2.83	0.01	1.13	0.54
SJVAPCD Significance Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Is the SJVAPCD Threshold Exceeded After Mitigation?	No	No	No	No	No	No

Source: (VRPA Technologies, Inc. 2025a)

As calculated with CalEEMod, the estimated short-term construction-related emissions for criteria pollutants would not exceed significance threshold levels during any given year.

Long-Term Operational Emissions

Long-term emissions are caused by operational mobile, area, and energy sources. The Merced County area is nonattainment for Federal and State air quality standards for ozone, attainment of Federal standards for PM_{10} and nonattainment for State standards, and

nonattainment for Federal and State standards for $PM_{2.5}$. Nitrogen oxides and reactive organic gases are regulated as ozone precursors.

Operation of the proposed project is anticipated to generate criteria pollutant emissions below SJVAPCD significance threshold levels, as shown in the table below.

Table 3.4.3-3
Operational Emissions

Emissions Sources	Pollutant (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Energy	8.61	5.51	30.70	0.07	7.83	2.20
SJVAPCD Threshold	10	10	100	27	15	15
Is SJVAPCD Threshold Exceeded?	No	No	No	No	No	No

Source: (VRPA Technologies, Inc. 2025a)

Fugitive Dust Emissions

Operation of the project site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from vehicular traffic associated with the project site.

PM_{10}, on its own as well as in combination with other pollutants, creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimize fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed project (and all projects):

- Rule 4102 – Nuisance – prohibits a facility from posing as a nuisance to surrounding receptors and can impose penalties for nuisance issues such as dust, smoke, excess emissions, etc. Compliance with this rule ensures that the area around the project site will not be adversely impacted by such issues.

- Regulation VIII – Fugitive PM_{10} Prohibitions – a series of regulations to reduce and/or eliminate generation of particulate matter (PM) that can adversely impact visibility as well as the health and safety of people on-site or in the vicinity of the project.

    - Rule 8011 - General Requirements – this rule is to reduce ambient concentrations of fine particulate matter (PM_{10}) by requiring actions to

prevent, reduce or mitigate anthropogenic (human-caused) fugitive dust emissions.

- Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities – restricts generation of airborne dust and visibility impacts from these activities. Places limits on opacity and equipment operation under certain adverse weather conditions.

- Rule 8041 - Carryout and Trackout – requires that equipment and vehicles leaving the construction site control the amount of dirt, soil or mud that is tracked offsite and onto public roadways. This helps eliminate or minimize dust generation and opacity degradation.

- Rule 8051 - Open Areas – limits fugitive dust from open areas, i.e., areas on a construction site that are not actively being constructed upon but may generate wind-blown dust.

The project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended in the *Air Quality Impact Analysis*.

The project does not conflict with or obstruct implementation of an applicable air quality plan or exceed the SJVAPCD's established emissions thresholds and significance thresholds for all CEQA air quality determinations. Therefore, this project would not pose a significant impact to the SJVAB. The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard and would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.3c – Would the Project expose sensitive receptors to substantial pollutant concentrations?

The first step in evaluating the potential for impacts to sensitive receptors for toxic air contaminants (TAC) from the project is to perform a screening level analysis. For Type B projects, one type of screening tool is found in the CARB Handbook: Air Quality and Land Use Handbook: A Community Perspective. This handbook includes a table with recommended buffer distances associated with various types of common sources. The CARB Handbook indicates that new sensitive land uses shouldn't be sited within 500 feet of a freeway/urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. SR 99, located

approximately 1,700 feet from the project site, carries approximately 52,000 Annual Average Daily Trips (AADT). The project, particularly its residential uses, are located more than 500 feet from SR 99.

There is an existing gas station (ARCO) located at the southeast corner of Campus Parkway and Coffee Street that offers eight (8) fueling pumps or 16 fueling positions. While the yearly gasoline throughput of the existing gas station is not known, the project site is located more than 1,200 feet to the east.

An evaluation of nearby land uses considering CARB's Pollution Mapping Tool shows that the project will not place sensitive receptors in the vicinity of existing toxic sources. The project is located more than five (5) miles from the Hilmar Cheese Company, a known toxic emitting source. This facility is the nearest toxic emitting source to the project site based upon CARB's Pollution Mapping Tool. The screening level analysis for the project shows that TACs are not a concern based upon the recommendations provided in CARB's Handbook and Pollution Mapping Tool.

Health risks from diesel-exhaust emissions mainly arise from long-term exposure and the risk of cancer. Diesel-powered construction equipment will be used intermittently across the site. State regulations limit idling to 5 minutes, reducing temporary DPM emissions exposure for sensitive receptors. Even during peak construction, diesel PM emissions will come from various locations due to different construction activities not happening in the same place simultaneously. TAC emissions associated with the construction of the project were used to assess impacts to adjacent sensitive receptors. Table 3.4.3-4 shows the analysis results for maximally exposed individuals at nearby sensitive receptors. A threshold of 10 in one million was used instead of the SJVAPCD's 20 in one million due to the uncertainties in assessing cancer risk from short-term construction exposures. Results of the analysis show that TAC emissions at residences adjacent to the project site would exceed the 10 in one million threshold from construction activities. Implementation of Mitigation Measure (MM) AQ-1 would reduce substantial pollutant concentrations during project construction as shown in Table 3.4.3-5. MM AQ-1 requires that all off-road diesel-powered construction equipment meets CARB Tier 4 emissions standards or equivalent, thereby reducing health risk at the closest residences to a less than significant level.

Table 3.4.3-4
Health Risk from Project Construction

Receptor	Type	Cancer Risk	Chronic HI	Acute Simple HI
1	Residence	4.08E-05	8.88E-02	0.00E+00
2	Residence	4.28E-05	9.33E-02	0.00E+00
3	Residence	4.32E-05	9.42E-02	0.00E+00
4	Residence	4.02E-05	8.76E-02	0.00E+00
5	Residence	3.47E-05	7.57E-02	0.00E+00
6	Residence	2.91E-05	6.34E-02	0.00E+00
7	Residence	1.57E-05	3.42E-02	0.00E+00

Source: (VRPA Technologies, Inc. 2025a)

Table 3.4.3-5
Health Risk from Project Construction with Mitigation

Receptor	Type	Cancer Risk	Chronic HI	Acute Simple HI
1	Residence	9.71E-06	2.12E-02	0.00E+00
2	Residence	9.88E-06	2.15E-02	0.00E+00
3	Residence	9.58E-06	2.09E-02	0.00E+00
4	Residence	8.54E-06	1.86E-02	0.00E+00
5	Residence	7.34E-06	1.60E-02	0.00E+00
6	Residence	6.37E-06	1.39E-02	0.00E+00
7	Residence	4.26E-06	9.28E-03	0.00E+00

Source: (VRPA Technologies, Inc. 2025a)

Long-Term emissions from the project are generated primarily by mobile source (vehicle) emissions from the project site and area sources such as lawn maintenance equipment. Emissions from long-term operations generally represent a project's most substantial air quality impact. The project's operational impacts by pollutant as summarized in Table 3.4.3-3 indicate that operational emissions from the project will not exceed the SJVAPCD emissions threshold for any emissions.

Therefore, the potential risk to the population attributable to emissions of TACs during construction would be less than significant with implementation of MM AQ-1.

MITIGATION MEASURE(S)

MM AQ-1: The project contractor or project representatives shall ensure that all off-road diesel-powered construction equipment meets the CARB Tier 4 emissions standards or equivalent.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.3d – Would the Project result in emissions (such as those leading to odors) adversely affecting a substantial number of people?

The SJVAPCD's GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and

2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources."

The GAMAQI also states, "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), along with a reasonable distance from the source within which the degree of odors could possibly be significant. [Table 6] can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors" (VRPA Technologies, Inc. 2025a)Because the project is a residential development and the anticipated activities for the project site are not listed in Table 6 of the GAMAQI as a source that would create objectionable odors, the project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (VRPA Technologies, Inc. 2025a) Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the project emissions estimates indicate that it would not be expected to adversely impact surrounding receptors. As such, the proposed project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source. Therefore, impacts of the project related to emissions and odors are less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.4 - BIOLOGICAL RESOURCES				
Would the Project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

The analyses in this section are based on a Biological Evaluation (Live Oak Associates, Inc. 2024)attached as Appendix B.

Impact Analysis

Impact #3.4.4a – Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The Biological Evaluation (BE) describes the biological resources of the project site and evaluated the potential impacts to biological resources associated with project implementation. A reconnaissance-level field survey of the project site was conducted on August 19, 2024. The survey consisted of walking and driving through the project site while identifying its principal land uses, biotic habitats, flora, and fauna, and assessing its potential to support special status species and other sensitive resources. Table 3.4.4-1 below provides a list of special status species that could occur in the project vicinity.

Table 3.4.4-1
Lists of Special Status Species That Could Occur in the Project Vicinity

Species	Status	Habitat/Range	Occurrence on the Project site
Plants			
Succulent Owl's-Clover (*Castilleja campestris* ssp. *succulenta*)	FT, CE CRPR 1B.2	Occurs in vernal pools of the Central Valley that are often acidic; blooms April-May; elevation 160-2460 ft.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Delta Button Celery (*Eryngium racemosum*)	CE, CRPR 1B.1	Found in seasonally flooded clay depressions in floodplains at elevations between 10- 100 feet. Blooms June – October.	**Absent.** Decades of agricultural disturbance have eliminated any habitat that may have once been present on site or in the immediate vicinity. In addition, the project site is outside of the species elevational range.
Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*)	CE CRPR 1B.2	Inhabits the Central Valley, inner north coast range, and Sierra Nevada foothills. The largest concentration is located within the Modoc Plateau. Restricted to clay soils in or near shallow water such as lake edges and vernal pools. Elevation below 5250 feet. Blooms April- August.	**Absent.** Suitable habitat in the form of vernal pools and/or lake edges is absent from the project site.

Colusa Grass (*Neostapfia colusana)*	FT, CE, CRPR 1B.1	Typically found in alkaline basins of Sacramento and San Joaquin Valleys and in acidic soils along the eastern San Joaquin Valley and the Sierra Nevada foothills.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
San Joaquin Valley Orcutt Grass (*Orcuttia inaequalis*)	FT, CE CRPR 1B.1	Occurs in vernal pools of the Central Valley; requires deep pools with prolonged periods of inundation; blooms April-September; elevation 100-2,480 ft.	**Absent.** Vernal pool habitat is absent from the project site.
Hairy Orcutt Grass (*Orcuttia pilosa*)	FE, CE	Vernal pools of California's Central Valley. Requires deep pools with prolonged periods of inundation; blooms May to September.	**Absent.** Vernal pool habitat is absent from the project site.
Hartweg's Golden Sunburst (*Pseudobahia bahiifolia*)	FE, CE CRPR 1B.1	Found in heavy clay soils in open woodlands and non-native grasslands. The current known distribution of this species occurs along the eastern side of the San Joaquin Valley and lower central Sierra Nevada foothills. Elevation between 330- 650 feet. Blooms March- April.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity. In addition, the project site is outside of the species elevational range.
Merced Phacelia *(Phacelia ciliate var. opaca)*	CRPR 3.2	Restricted to heavy clay soils on the San Joaquin Valley floor and adjacent hills at elevations below 330 feet.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Keck's Checkerbloom (*Sidalcea keckii*)	FE, CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grassland habitat with serpentine and/or clay soils between 525 and 2,230 ft. in elevation. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site and the site is outside the species elevational range.
Greene's Tuctoria (*Tuctoria greenei*)	FE, CR, CRPR 1B.1	Occurs in vernal pools of California's Central Valley from Shasta Co. on the north to Tulare Co. on the south; blooms May to September.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Henderson's Bent Grass (*Agrostis hendersonii*)	CRPR 3.2	Found in vernal pools at elevations under 984 feet in north and central San	**Absent.** Suitable habitat in the form of vernal pools is

		Joaquin Valley. Blooms April- June.	absent from the project site.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CRPR 1B.2	Occurs on saline or alkaline soils in chenopod scrub, meadows, seeps, and grasslands; blooms April-October; elevations below 1,230 ft.	**Absent.** Suitable soils and habitat are absent from the project site.
Lesser Saltscale (*Atriplex minuscula*)	CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grasslands of the San Joaquin Valley; alkaline/sandy soils; blooms May-October; elevation 50-660 ft.	**Absent.** Suitable soils and habitat are absent from the project site.
Vernal Pool Smallscale (*Atriplex persistens*)	CRPR 1B.2	Occurs in alkaline vernal pools; blooms July-Oct.; elevations below 400 ft.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Subtle Orache (*Atriplex subtilis*)	CRPR 1B.2	Occurs in valley and foothill grasslands of the San Joaquin Valley; blooms August-October; elevation 130-330 ft.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Watershield (*Brasenia schreberi*)	CRPR 2B.3	An aquatic, perennial herb with floating leaves that grows in ponds, lakes, and slow-moving streams.	**Absent.** The project site's irrigation ditches do not have a sufficient inundation regime for this species.
Hoover's Calycadenia (*Calycadenia hooveri*)	CRPR 1B.3	Found in rocky soils, frequently of the Hornitos series, in Calaveras, Madera, Mariposa, and Stanislaus Counties.	**Absent.** Suitable soils and habitat are absent from the project site.
Beaked Clarkia (*Clarkia rostrata*)	CRPR 1B.3	This species occurs in the woodlands of the Sierra Nevada Forest near the Merced River. Elevations up to 1,640 feet. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site.
Recurved Larkspur (*Delphinium recurvatum*)	CRPR 1B.2	Chenopod scrub, cismontane woodlands, and alkaline soils of valley and foothill grasslands. Blooms March-May.	**Absent.** Suitable soils and
Dwarf Downingia (*Downingia pusilla*)	CRPR 2B.2	Grows in vernal pools and other seasonal wetlands. Blooms March – May.	**Unlikely.** Suitable habitat in the form of vernal pools and other seasonal

			wetlands is absent from the project site.
Spiny-Sepaled Button Celery (*Eryngium spinosepalum*)	CRPR 1B.2	Found in vernal pools, swales and valley and foothill grasslands at the eastern edge of the San Joaquin Valley and in the Tulare Basin; elevation between 330 and 840 ft. Blooms April to May	**Absent.** Suitable habitat in the form of vernal pools and swales is absent from the project site. Furthermore, the project site is outside of this species' elevational range.
Forked Hare-Leaf (*Lagophylla dichotoma*)	CRPR 1B.1	Occurs in openings in woodlands or grasslands at elevations between 164 feet to 1312 feet. Flowers April and May.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Alkali-Sink Goldfields (*Lasthenia chrysantha*)	CRPR 1B.1	Occurs in valley grassland, alkali sink, wetland riparian areas less than 328 ft. in elevation in the southern Sacramento Valley and San Joaquin Valley. Blooms February – June.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Pincushion Navarretia (*Navarretia myersii spp. myersii*)	CRPR 1B.1	Occurs in vernal pools in the Central Valley, particularly on the eastern edge. Elevations 66 to 295 feet. Blooms in May.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Shining Navarretia (*Navarretia nigelliformis* ssp. *radians*)	CRPR1B.2	Occurs in Valley grassland, foothill woodland, freshwater-wetlands, and wetland-riparian between 525 and 1770 ft. in elevation. Blooms April-July.	**Absent.** Suitable habitat is absent, and the project site is outside of this species' elevational range.
California Alkali-Grass (*Puccinellia simplex*)	CRPR 1B.2	Occurs in saline flats and mineral springs less than 900 m. in elevation in the Central Valley, San Francisco Bay area and western Mojave Desert.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Sanford's Arrowhead (*Sagittaria sanfordii*)	CRPR 1B.2	Occurs in freshwater emergent marsh habitats in drainage ditches and canals of California's Central Valley. Blooms May to October.	**Unlikely.** The project site's irrigation ditches do not appear to have a sufficient inundation regime for this species.
Wildlife			

Crotch's Bumblebee (*Bombus crotchii*)	CCE	Once common in the Central Valley, this species is now absent from most of it, particularly in the central portion of its historic range. Where present, it is associated with open grassland and scrub habitats, where it relies on food plants of the *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera (Williams et al. 2014).	**Unlikely.** While the project site contains some potential foraging resources for the Crotch bumblebee, it is situated in a matrix of intensive agricultural, residential, and commercial uses incompatible with this species' ecology. Moreover, the Crotch's bumble bee is thought to be nearly extirpated from the valley floor. For these reasons, it is unlikely to occur on site.
Conservancy Fairy Shrimp (*Branchinecta conservatio*)	FE	Occurs in large, turbid vernal pools in grasslands of the northern two-thirds of the Central Valley.	**Absent**. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Vernal Pool Fairy Shrimp *(Branchinecta lynchi*)	FT	Primarily found in vernal pools of California's Central Valley.	**Absent**. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)	FE	Primarily found in vernal pools but may use other seasonal wetlands in mesic valley and foothill grasslands.	**Absent**. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*)	FT, CSC	This slender-bodied fish is endemic to the San Francisco Bay and Sacramento-San Joaquin Delta upstream through Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	**Absent**. Suitable habitat in the form of streams is absent from the project site.
California Tiger Salamander (*Ambystoma californiense pop. 1*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. Although most CTS aestivate within 0.4 mile of their breeding pond, outliers may aestivate up to 1.3 miles away (Orloff 2011).	**Absent.** The project site and surrounding areas have experienced decades of agricultural disturbance and urban development, eliminating any potential habitat that may have once existed on and within the vicinity of the project site. The closest CNDDB occurrence is from 1999 and lies approximately 4.5 miles southwest of the project site across California State Route 99 (CDFW 2024).

Western Spadefoot (*Spea hammondii*)	FPT, CSC	Occurs in grasslands of San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a mean maximum distance of around 230 feet between breeding and aestivation sites, with an overall maximum of 890 feet.	**Absent.** Suitable breeding habitat is absent from the site and surrounding lands and there are no CNDDB occurrences within the vicinity of the project site (CDFW 2024).
Northwestern Pond Turtle (*Actinemys marmorata*)	FPT, CSC	Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires partially submerged rocks or logs or sandy banks for basking sites. Nesting takes place in open areas, on a variety of soil types, and up to ¼ mile away from water.	**Unlikely.** The project site's irrigation ditches do not have a sufficient inundation regime for this species. An irrigation canal lies approximately 85 ft south of the southern border of the project site. Although historical imagery shows the irrigation canal primarily inundated with water throughout the year, northwestern pond turtles are unlikely to be found here due to the steep edges of the canal, lack of basking habitat, and proximity to a busy street and residential development. The closest known CNDDB occurrence is an undated occurrence 5 miles south of the project across California State Route 99 (CDFW 2024).
Blunt-Nosed Leopard Lizard (*Gambelia sila*)	FE, CE, CFP	Occurs in semiarid grasslands, alkali flats, and washes. Avoids densely vegetated areas. Inhabits the San Joaquin Valley and adjacent valleys and foothills north to southern Merced County.	**Absent.** Historical agricultural disturbance and urban development in and around the site has created unsuitable habitat for this species and there are no CNDDB occurrences within the vicinity of the project site (CDFW 2024).
Giant Garter Snake (*Thamnophis gigas*)	FT, CT, CFP	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. Inhabit small mammal burrows and other upland	**Absent.** The giant garter snake was historically known from the area; there is a CNDDB occurrence from 1908 that was mapped to the general vicinity of the City of Merced (CDFW 2024). Since that time, the species has undergone a dramatic

		soil crevices during the winter during hibernation.	reduction in its range. The closest known extant population is in the North and South Grasslands region, some 20 miles west of the project site (USFWS 2012).
Tricolored Blackbird (*Agelaius tricolor*)	CT	Nests colonially near fresh water in dense cattails or tules, in thickets of willows or shrubs, and increasingly in grain fields. Forages in grassland and cropland areas.	**Possible.** Tricolored blackbirds are occasionally sighted in the general project vicinity, and may occasionally pass through or forage on site, though this species is not expected to nest on site or in the near vicinity. Analysis of aerial imagery indicates the site's agricultural field is typically planted to row vegetables, and not to crops suitable for tricolored blackbird nesting such as wheat, soy, or triticale.
Swainson's Hawk (*Buteo swainsoni*)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Likely.** There are over 50 sightings of Swainson's hawks within the vicinity of the project site and 30 CNDDB documented nesting occurrences within 10 miles of the project site (CDFW 2024, eBird 2024). The project site offers suitable foraging habitat for this species in the form of an agricultural field. The project site does not offer any nesting habitat, though mature trees within the vicinity of the project site represent potential nesting habitat. The high number of sightings and nesting occurrences within the area make it likely for this species to occur on site.
Bald Eagle (*Haliaeetus leucocephalus*)	CE, CFP	Nests and winters on ocean shores, lake margins and rivers. Uses old-growth snags. Mostly forages over water and along shores.	**Unlikely.** There are several eBird sightings of bald eagles within 10 miles of the project site and one unknown dated CNDDB nesting occurrence approximately 6 miles north of the project site at Lake Yosemite (CDFW 2024, eBird 2024). Bald eagles are not expected to forage or nest on or near

			the site due to lack of suitable habitat. They may occasionally fly over the site.
San Joaquin Kit Fox (SJKF) (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands. Utilizes enlarged ground squirrel burrows as denning habitat. May become adapted to urban environments, as has occurred in the cities of Bakersfield, Taft, and Coalinga.	**Unlikely.** The project site is situated in the outskirts of Merced, in an area characterized by residential, commercial, and intensive agricultural uses generally not compatible with kit fox ecology. No recent records of this species are known from the project vicinity; the four CNDDB occurrences within 10 miles of the site are all from 2001 or earlier, and there are no iNaturalist records within 20 miles. Finally, the site is located over 40 miles away from the nearest SJKF core population in the Ciervo-Panoche region. For these reasons, the SJKF is considered unlikely to occur on site.
Hardhead (*Mylopharadon conocephalus*)	CSC	Occurs in clear deep streams with a slow but present flow, in a low to mid-elevation environment. May also inhabit lakes or reservoirs. Spawns in pools, runs, or rifles with a gravel and rocky substrate.	**Absent**. Suitable habitat in the form of streams is absent from the project site
Western burrowing owl (*Athene cunicularia*)	CCE	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Possible.** Burrowing owls are unlikely to nest or roost on site due to intensive agricultural practices in the oat field and tall, dense vegetative cover in the ruderal field. Burrowing owls may occasionally pass through or forage on site, if present in the vicinity. The closest CNDDB occurrences of this species are approximately 4.25 miles west of the project site at the Merced Municipal Airport (CDFW 2024).
Mountain Plover (*Charadrius montanus*)	CSC	This species is a winter resident of California's Central and Imperial Valleys, where it forages in	**Possible.** The site's agricultural field could provide foraging habitat for wintering mountain

		short grasslands and freshly plowed fields. Breeds in the western Great Plains and Rocky Mountain states.	plovers. This species does not breed in the region.
Northern Harrier (*Circus cyaneus*)	CSC	Nests on the ground and forages in meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** This species has been spotted in the general vicinity of the project site but is not a common visitor and there are no CNDDB nesting records within 10 miles of the project site (CDFW 2024, eBird 2024). Nevertheless, the project site and surrounding lands provide some suitable foraging and nesting habitat for this species. Northern harriers will occasionally nest in dry, open fields if preferable habitat is unavailable, and the site's agricultural field and ruderal field could conceivably be used for this purpose.
Pallid Bat (*Antrozous pallidus*)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	**Possible.** Pallid bats could forage over the site, but roosting habitat is absent.
Western Mastiff Bat (*Eumops perotis ssp. californicus*)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	**Possible.** The western mastiff bat could forage over the site, but roosting habitat is absent.
Western Red Bat (*Lasiurus blossevillii*)	CSC	This mostly solitary bat roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Possible.** The western red bat could forage over the site, but roosting habitat is absent.
American Badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Utilize subterranean burrows,	**Unlikely.** The project site is located in the outskirts of Merced, in an area characterized by residential, commercial,

		usually self-dug, for rest and reproduction.	and intensive agricultural uses generally not compatible with badger ecology. The site itself is highly disturbed and unlikely to be occupied or utilized by American badgers.

Status Codes		CRPR Codes
FE Federally Endangered	CT California Threatened	1A Plants Presumed Extinct in California
FC Federal Candidate	CE California Endangered	2 Plants Rare, Threatened, or Endangered in
FT Federally Threatened	CCE California Candidate Endangered	1B Plants Rare, Threatened, or Endangered in California, but more common elsewhere
	CFP California Fully Protected	California and elsewhere
	CSC California Species of Special Concern	
	CR California Rare	

Source: (Live Oak Associates, Inc. 2024)

Special-Status Species

SPECIAL-STATUS PLANT SPECIES

Two biotic habitats / land uses were identified within the project site: agricultural and ruderal field. the majority of the project site consisted of a harvested oat field bisected into north and south sections by Campus Parkway, with an irrigation ditch running along the eastern margin of the oat field south of Campus Parkway.

Both the oat field and irrigation ditch supported a variety of weedy and native forbs. The margins of the field hosted the greatest diversity of plant life, though the fields center also contained an assortment of plant species as well. Oat (*Avena sativa*), milk thistle (*Silybum marianum*), Russian thistle (*Salsola tragus*), and jimsonweed (*Datura wrightii*) were most common along the field margins and irrigation ditch, while oat, narrowleaf milkweed (*Asclepias fascicularis*), panicle willowherb (*Epilobium brachycarpum*), and prickly lettuce (*Latuca serriola*) were most common throughout the center of the field.

The northern and northeastern edges of the project site can be categorized as ruderal field. At the time of the survey, the northernmost portion of ruderal field was densely covered in vegetation including milk thistle, oat, prickly lettuce, Russian thistle, and flax-leaved horseweed (*Erigeron bonariensis*). A young, shrubby California black walnut tree (*Juglans hindsii*) was found in this portion of the ruderal field as well. This portion of the ruderal field was separated from the oat field by an irrigation ditch on the north side of the oat field, which was dry at the time of the survey and does not appear to be inundated in any recent aerial images. Vegetative cover in the ditch was indistinguishable from the surrounding ruderal field and at the time of the survey was dominated by oat and Russian thistle. The northeast portion of the ruderal field was less densely vegetated but contained many similar species to the northernmost section including oat, prickly lettuce, Russian thistle, and flax-leaved horseweed.

Twenty-seven special status plant species have been documented in the general vicinity of the project site (see Table 3.4.4-1). All 27 species are considered absent from the project site due to an absence of suitable habitat. The project is not expected to adversely affect these species, either directly or indirectly, and impacts are considered less than significant under CEQA.

SENSITIVE WILDLIFE SPECIES

At the time of the field survey, the majority of the project site consisted of a harvested oat field bisected into north and south sections by Campus Parkway, with an irrigation ditch running along the eastern margin of the oat field south of Campus Parkway. The project site's agricultural land provides some habitat for common wildlife species. Common amphibians such as the western toad (*Bufo boreas*) and Sierran treefrog (*Pseudacris sierra*) may breed in nearby ditches or basins and subsequently disperse across the oat field. Aerial imagery indicates that the on-site ditches are infrequently inundated and may not, themselves, support amphibian breeding. Reptiles such as side-blotched lizards (*Uta stansburiana*), Pacific gopher snakes (*Pituophis catenifer catenifer*), and California king snakes (*Lampropeltis californiae*) could occur on or pass through the site's oat field from time to time. Common avian species are expected to utilize the oat field for foraging including American crow (*Corvus brachyrhynchos*), western meadowlark (*Sturnella neglecta*), western kingbird (*Tyrannus verticalis*), and northern mockingbird (*Mimus polyglottos*). Raptors such as red-tailed hawks (*Buteo jamaicensis*) and American kestrels (*Falco sparverius*) are likely to forage over the oat field as well. Ground nesting birds such as mourning doves (*Zenaida macroura*) could nest in the field. Small mammal use of the site's agricultural land may include deer mice (*Peromyscus maniculatus*), California voles (*Microtus californicus*), Botta's pocket gophers (*Thomomys bottae*), and California ground squirrels (*Otospermophilus beecheyi*). Several Botta's pocket gopher and numerous California ground squirrel burrows were observed in the oat field, specifically within the portion south of Campus Parkway.

Mid-tier predatory mammal species that may forage or pass through the site's agricultural land include raccoon (*Procyon lotor*), western striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*) and coyote (*Canis latrans*). Various bat species may forage over the site's agricultural land for insects. Due to the proximity of residences, domestic dogs (*Canis familiaris*) and cats (*Felis catus*) may also occur here from time to time.

The northern and northeastern edges of the project site can be categorized as ruderal field. Wildlife use of the site's ruderal field would be similar to that described for the agricultural land.

Twenty-two special status wildlife species have been documented in the general vicinity of the project site or are known to occur regionally (Table 3.4.4-1). Of these, 14 are considered absent from or unlikely to occur on the site due to the absence of suitable habitat, the site's developed setting and other landscape factors, and/or the site's being situated outside of the species' known distribution. These comprise of Crotch's bumblebee (*Bombus crotchii*),

conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*), California tiger salamander (*Ambystoma californiense pop. 1*), western spadefoot (*Spea hammondii*), northwestern pond turtle (*Actinemys marmorata*), blunt-nosed leopard lizard (*Gambelia sila*), giant garter snake (*Thamnophis gigas*), San Joaquin kit fox (*Vulpes macrotis muitca*), hardhead (*Mylopharadon conocephalus*), bald eagle (*Haliaeetus leucocephalus*), and American badger (*Taxidea taxus*). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the project, directly or indirectly.

Six special status wildlife species potentially occur on site, but the three bat species are not expected to use the site for sensitive activities such as breeding, nesting, or communal roosting due to lack of suitable roosting or nesting habitat. It is also likely that to breed, nest, or communally roost close enough to the site that they would be vulnerable to construction-related disturbance during these activities.

Individuals of these species are unlikely to be injured or killed by construction activities because they are highly mobile while foraging or passing through and would be expected to simply avoid active work areas. The project would not adversely affect any of these species through loss of foraging habitat. The site does not offer unique or high-quality habitat for any of these species, nor is it likely to represent an important part of any individual foraging range, given its disturbed nature and developed setting. Similar and higher quality habitats are abundant in the project vicinity and elsewhere in the region. For these reasons, impacts to the mountain plover, pallid bad, western mastiff bat, and western red bat are considered less than significant.

The project site has the potential to be used for nesting and foraging by several avian species including tricolored blackbird, northern harrier and western burrowing owl. Other birds and raptors, among them the state-threatened Swainson's hawk, may nest on adjacent lands and forage on site. Nearly all native birds are protected by the Migratory Bird Treaty Act (MBTA) and related state laws. Foraging birds and raptors are generally not susceptible to construction-related injury and mortality because they are highly mobile during this activity and can simply avoid active work areas. However, during the breeding season, adult birds have reduced mobility as they attempt to guard their nests, incubate eggs, and care for young, and nestlings may have no mobility at all. Nests may be destroyed by construction equipment, and the birds inside injured or killed. Noise and other forms of disturbance from nearby construction activities may cause birds to abandon their nests. Construction-related mortality of nesting birds and construction-related disturbance leading to nest abandonment are potentially significant impacts of the project. Moreover, such incidents would violate the MBTA and California Fish and Game Code.

The project site is not expected to significantly impact the northern harrier or Swainson's hawk through loss of habitat as many more acres of similar or higher quality habitat exist in the vicinity of the project site. Loss of habitat for these species is not considered a significant impact of the project.

CONCLUSION

It is very unlikely that any special-status plant species occur in the project area due to historic disturbance and absence of suitable habitat.

Several special status wildlife species may potentially occur as transient foragers on site, or they may travel through. These species are the tricolored blackbird, western burrowing owl, mountain plover, harrier, San Joaquin kit fox, American badger and Swainson's hawk. Impacts to these and other listed species that may occur on site will be reduced to less than significant levels with the implementation of MM BIO-1 through MM BIO-5, as outlined below, would protect, avoid, and minimize impacts to these special-status wildlife species. When implemented, these mitigation measures would reduce impacts on these species to levels that are less than significant.

MITIGATION MEASURE(S)

BIO-1: a) A pre-construction clearance survey of the project site shall be conducted for special-status wildlife species and nesting migratory birds and raptors. The survey shall occur no less than 14-30 days prior to the start of construction activities. If construction is delayed beyond 30 days from the time of the survey, then another survey shall be conducted. The survey shall be conducted by a qualified biologist with adequate training and prior experience conducting surveys for special-status wildlife species. If no special-status species or migratory birds/raptors or their sign are observed, no further action is warranted. A report outlining the results of the clearance survey shall be provided to the Lead Agency as evidence of compliance.

b) If dens/burrows/nests that could support any of these special-status species are discovered during the preconstruction survey, the avoidance buffers outlined below shall be established, and den or burrow monitoring shall be conducted in accordance with the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and U.S. Fish and Wildlife Service (USFWS) *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbanc*e (U.S. Fish and Wildlife Service, 2011).

Den(s) or burrow(s) shall be monitored using trail cameras or tracking mediums such as diatomaceous earth. If no species are detected for a minimum of four consecutive days/nights, the den or burrow may be burrow-scoped and plugged with a filled sandbag under the direct supervision of a qualified biologist. All tunnels must be examined for animal presence before plugging with a sandbag to ensure no burrowing owls, kit foxes, or other animals are hiding inside.

No work shall occur within these buffers unless the biologist approves and monitors the activity. A copy of the preconstruction survey report shall be submitted to the Lead Agency as evidence of compliance.

Burrowing Owl (active burrows)

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

American badger/SJKF

Potential or Atypical den – 50 feet
Known den – 100 feet
Natal Den –Contact CDFW for consultation

BIO-2: If construction is planned during the nesting season for migratory birds and raptors (February 15 to August 31) and nesting birds are identified during the preconstruction survey, active Swainson's hawk nest shall be avoided by 0.5 miles, other raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified biological monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds.

BIO-3: If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist shall complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this project. Based on this assessment, the biologist will determine if construction activities can proceed, and the level of nest monitoring required. Construction activities shall not occur within 500 feet of an active nest, but depending on conditions at the site, this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist shall have the authority to stop work if it is determined that project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist.

BIO-4: Prior to the initiation of construction activities, all personnel shall attend a Worker Environmental Awareness Training program developed by a qualified biologist. The program shall include information on the life histories of special-status species with the potential to occur on the project, their legal status, the course of action shall these species be encountered on-site, and avoidance and minimization measures to protect these species.

BIO-5: The following measures shall be implemented during all phases of the project to reduce the potential for impact from the project.

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or project site.

b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour within the project site. A 10-mile-per-hour speed limit shall be implemented during night-time construction activities.

c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four inches or greater that are stored on the project site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted, and USFWS and CDFW shall be consulted for guidance.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater 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 USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox has escaped.

e. No pets, such as dogs or cats, shall be permitted on the project sites to prevent harassment, mortality of kit foxes, or destruction of dens.

f. No fueling of construction equipment will occur within 100 feet of a drainage, water crossing, or wetlands. If a spill or pipe break occurs within 100 feet of any water feature, adherence to the CREH Spill Prevention, Control, and Countermeasure (SPCC) Plan will be followed.

g. Use of anticoagulant rodenticides and herbicides in project sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe labels and other restrictions mandated by the EPA, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. If rodent

control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.

h. A representative shall be appointed by the project proponent, who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative shall be identified during the employee education program, and their name and telephone number shall be provided to the USFWS.

i. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to an SJKF during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov. The BLM will also be informed about those wells on the Split Estate property.

j. All sightings of the SJKF shall be reported to the CNDDB. A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the USFWS at the address below.

k. Any project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.

l. A copy of the pre-construction survey report shall be submitted to the Lead Agency as evidence of compliance.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated.***

Impact #3.4.4b – Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

As previously discussed, the project site is characterized as agricultural and ruderal fields and does not contain a sensitive natural community. The site is predominantly vacant and does not provide riparian habitat. The project is not located within a river or an area that encompasses a river or potential floodplain and does not contain nor is near any riparian habitat. There are no anticipated impacts to sensitive natural communities as a result of the

proposed project. The proposed project would not have any impacts to a riparian habitat or sensitive natural communities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.4c – 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?

The United States Army Corps of Engineers (USACE) has regulatory authority over the Clean Water Act (CWA), as provided for by the EPA. The USACE has established specific criteria for the determination of wetlands based on the presence of wetland hydrology, hydric soils, and hydrophilic vegetation.

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction by US Army Corps of Engineers (USACE) under Section 404 of the CWA, the State Water Resources Control Board (SWRCB) as regulatory authority under Section 401 Porter-Cologne Water Quality Control Act and/or under the jurisdiction of the California Department of Fish and Wildlife (CDFW) regulatory authority under Section 1602 of the California Fish and Game Code. There are two irrigation ditches that are depicted as blue-line water features on USGS topographical maps (Figure 3.4.4-1). With the development of Campus Parkway and other land use changes in the vicinity, both ditches appear to have been modified from their historic blue-line course.

The irrigation ditch running north south (originally part of the Farmdale lateral) along the eastern area of the project site appears to connect to Miles Creek approximately ½ mile south of project boundaries. As a tributary to a known Water of the U.S., it may itself be considered a Water of the U.S. by the USACE if it carries "relatively permanent" flows. The lack of wetland vegetation observed during the field survey, combined with limited evidence of inundation, suggests that it might not meet this standard (Live Oak Associates, Inc. 2024).

The ditch running east to west in the northerly portion of the appears to either terminate and cut off by Campus Parkway and East Gerard Avenue or be undergrounded approximately 700 feet west of project boundaries and is no longer in use. Its vegetative community was indistinguishable from that of the ruderal field at the time of the survey, and there are no available aerial images in which it is obviously inundated. As such, it may be a remnant feature.

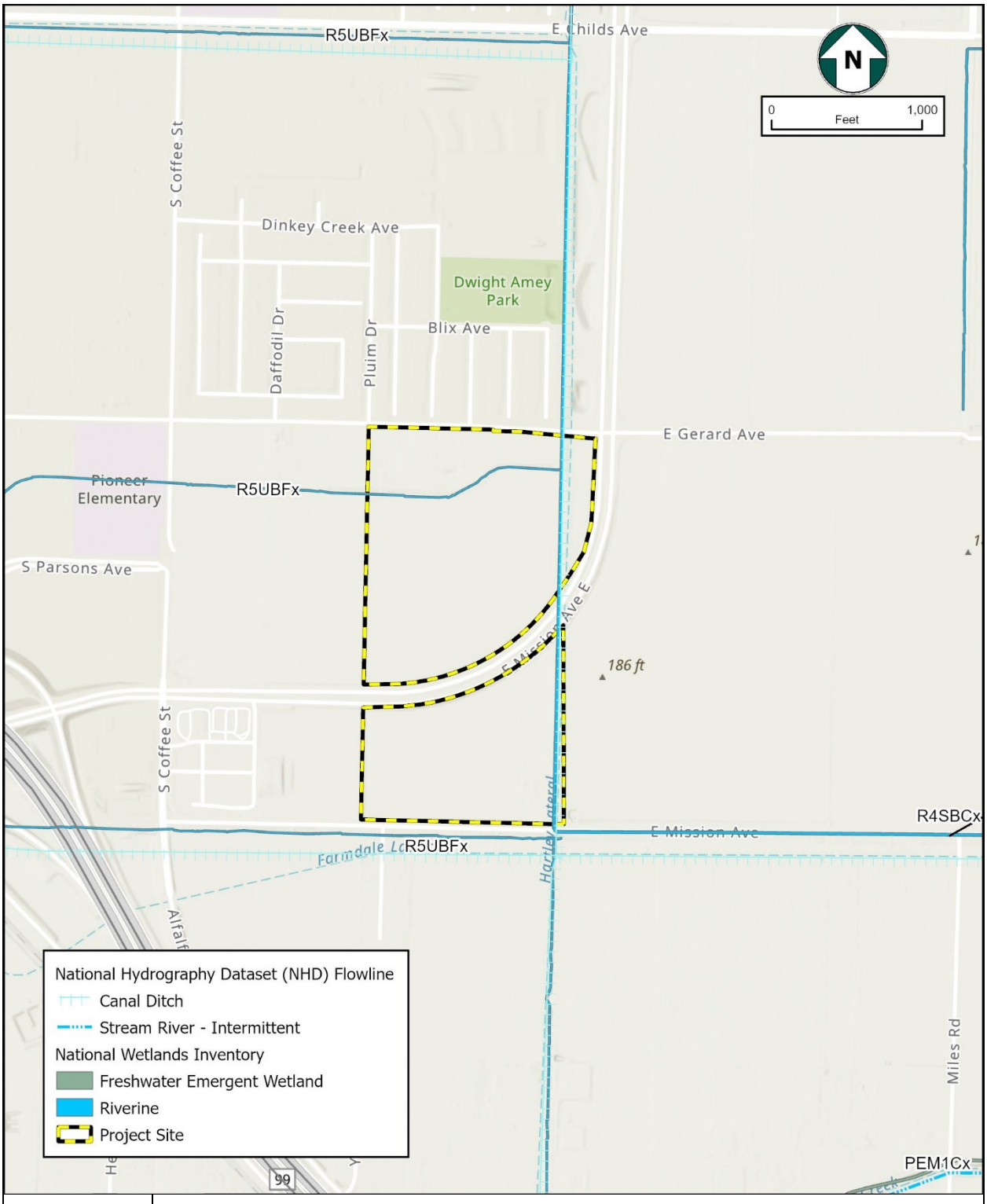


Figure 3. 4. 4-1
NHD-NWI

Although no jurisdictional water features were identified on or near the project that would meet the criteria for either federal or State jurisdiction MM BIO-6 requires a formal notification of the project be submitted to the pertinent regulatory agencies prior to the issuance of grading permits. In the event drainage is jurisdictional, additional permitting with the appropriate regulatory agencies is also required prior to construction activities. With the implementation of MM BIO-6, the impact of the project related to water features would be less than significant.

MITIGATION MEASURE(S)

BIO-6: Prior to the issuance of any grading or building permit, the Project proponent/developer shall submit a formal notification to the US Army Corps of Engineers (ACOE), Water Resources Control Board (SWRCB) and California Department of Fish and Wildlife (CDFW). If no comments or requests for additional permitting are received by the agencies, no further action is necessary. A copy of all correspondence shall be submitted to the lead agency.

If a regulatory agency comments or requests additional permitting, the following actions may be taken. A copy of all correspondence and subsequent permitting and/or reports shall be made available to the Lead Agency. The report shall include information as shown below as a plan if necessary and shall outline compliance with the following:

1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form.

2. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (Central Valley Regional Water Quality Control Board (RWQCB), CDFW and US Army Corps of Engineers (USACE) shall be obtained prior to disturbance to jurisdictional features.

   If it is determined that drainage is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement under Section 1602 from the CDFW, if required prior to impacting any waters.

   As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Mitigation and Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact,

monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.

3. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).

4. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features.

5. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.4d – Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife migratory corridors are described as a narrow stretch of land that connects two open pieces of habitat that would otherwise be unconnected. These routes provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat and are important elements of resident species' home ranges.

The proposed project and surrounding area do not occur within a known terrestrial migration route, significant wildlife corridor, or linkage area as identified by the Essential Habitat Connectivity project (Live Oak Associates, Inc. 2024) The survey conducted for the project did not provide evidence of a wildlife nursery or important migratory habitat being present on the project site. Migratory birds and raptors could use habitat on and near the project for foraging and/or as stopover sites during migrations or movement between local areas.

The project will not restrict, eliminate, or significantly alter a wildlife movement corridor, wildlife core area, or Essential Habitat Connectivity area, either during construction or after the project has been constructed. project construction will not substantially interfere with wildlife movements or reduce breeding opportunities.

The proposed project would not interfere 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. Therefore, there would be no impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

Impact #3.4.4e – Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project is subject to the policies and requirements of the General Plan, which includes a conservation and open space chapter and Municipal Codes that provide guidance on the protection of listed plant and wildlife species, wetlands, and other sensitive biological resources. The project will implement measures such as those listed above (MM BIO-1 through BIO-6) to remain compliant with the General Plan. Therefore, implementation of the proposed project would have no conflict related to any adopted local policies or ordinances protecting biological resources.

MITIGATION MEASURE(S)

Implementation of MM BIO-1 thorough MM BIO-6.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.4f – 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?

The project is not located within any Natural Community Conservation Plan or any other local, regional, or State Conservation Plan. With mitigation, the proposed project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.5 - CULTURAL RESOURCES				
Would the Project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

The discussion below is based on the Cultural Resources Study and Evaluation completed for the project, attached as Appendix C (Applied EarthWorks, Inc. 2024).

Impact #3.4.5a – Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

The Cultural Resources Study and Evaluation consisted of a records search at the Central California Information Center (IC) of the California Historical Resources Information System (CHRIS); desktop research to better understand the history of land use in the project area; a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, and nongovernmental outreach to local tribes and individuals; an intensive pedestrian survey of the entire 71.18-acre project area to identify archaeological and historical built environment cultural resources; and an evaluation of two historical built environment resources for listing in the CRHR.

The records search reported 7 cultural resource studies previously conducted within the project area and 14 previous studies within the 0.5-mile radius. The IC records search returned three previously recorded historic-era cultural resources within the project area—the Merced Irrigation District (P-24-001909), the Doane Lateral (P-24-001886), which is owned by the Merced Irrigation District, and a residential and agricultural property (P-24-001930)—and nine previously recorded cultural resources within a 0.5-mile radius. A search of the NAHC's Sacred Land File did not identify Native American cultural resources within or near the project area, and no specific information was gleaned from outreach with local tribal representatives.

An archaeological pedestrian survey of the project area was conducted on August 28 and November 8, 2024, and a built environment pedestrian survey on August 31, 2024. The archaeologists did not discover any precontact or historic-era archaeological resources within the project area. One possibly historic-era straight razor was observed but not recorded due to lack of provenience. The architectural historians found that the previously recorded residential and agricultural property (P-24-001930) is no longer extant and identified two historic-era built environment resources within and adjacent to the project area—the Doane Lateral (P-24-001886) and an unnamed earthen ditch. Although, the Doane Lateral (P-24-001886) is adjacent to the eastern boundary of the project area, this resource was recorded and evaluated to facilitate potential future development. Two water conveyances resources were evaluated for CRHR eligibility and found both resources ineligible for listing because they do not possess significance under any CRHR evaluation criteria. Therefore, they do not qualify as historical resources, and no further action is recommended for the management of these cultural resources.

Although no historical resource was observed on the site, unknown historical resources may be discovered during ground-disturbing activities. In order to account for unanticipated discoveries and the potential to impact previously undocumented or unknown resources, the following mitigation measures are recommended. With the implementation of MM CUL-1 through MM CUL-2, impacts under this criterion would be less than significant with mitigation. With the implementation of the mitigation measures, impacts would be less than significant.

MITIGATION MEASURE(S)

MM CUL-1: If historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed project would not cause a substantial adverse change in the significance of a historical resource.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.5b – Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

See discussion of Impact #3.4.5a above.

The construction of the project will include trenching to place new piping underground, and some minor grading may be necessary to construct the project. Although unlikely, there is a chance that trenching and grading activities could unearth previously unknown archaeological resources. Implementation of MM CUL-1 through MM CUL-2 would ensure that potential impacts associated with archaeology during the project-related activities phase would be less than significant. With the implementation of these mitigation measures, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM CUL-1.

CUL-2: In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the developer and City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines.

If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and required to the developer and City. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the lead agency approves the measures to protect these resources.

Any prehistoric archaeological artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.5c – Would the Project disturb any human remains, including those interred outside of formal cemeteries?

There are no known cemeteries or burials on or near the project. Although unlikely, subsurface construction activities, such as trenching and grading, associated with the proposed project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. Although considered unlikely, subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites. The cultural resources and Sacred Lands File records searches did not indicate the presence of human remains, burials, or cemeteries within or in the vicinity of the project site. No human remains have been discovered at the project site,

and no burials or cemeteries are known to occur within the area of the site. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Implementation of mitigation measure MM CUL-2 would ensure that the proposed project would not directly or indirectly destroy previously unknown human remains. It is unlikely that the proposed project would disturb any known human remains, including those interred outside of formal cemeteries. With the implementation of the mitigation measures, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM CUL-1 and MM CUL-2.

MM CUL-3: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of a discovery of human remains, at the direction of the county

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.6 - ENERGY				
Would the Project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

The analysis in this section is based on an *Air Quality and Greenhouse Gas Impact Assessment* (VRPA Technologies, Inc. 2025a) attached as Appendix A. The *Air Quality and Greenhouse Gas Impact Assessment* considered build out of a larger number of residential lots than is currently proposed. Therefore, it can be assumed that the energy consumption estimates resulting from the project would be less than those estimated and discussed in this IS/MND.

Impact #3.4.6a – Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Construction

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and construction worker vehicle trips. Construction equipment can include tractors, loaded trucks, forklifts, generators, cranes, rollers, compactors, and an air compressor. The project would comply with the SJVAPCD requirements regarding the use of fuel-efficient vehicles and equipment to the extent feasible. The project will not use natural gas during the construction phase. Compliance with standard regional and local regulations would minimize fuel consumption during project construction. Specifically, project construction would comply with City of Merced General Plan Policy SD-3.2 and associated implementing actions 3.2.a through 3.2.e to encourage the use of energy conservation features, low-emission equipment, and alternative energy sources for all new residential and commercial development.

There are no unusual project characteristics that would cause construction equipment to be less energy efficient compared with other similar construction sites in other parts of the

State. Thus, construction-related fuel consumption at the project would not result in inefficient, wasteful, or unnecessary energy use.

Operations

Electricity and gas services for the proposed project would be provided by Pacific Gas and Electric Company (PG&E). Electricity in Merced County in 2022 was 3,185 million kilowatts per hour (GHw) and natural gas consumption attributable to Merced County in 2022 was 131.2 million therms (MMBTU) (California Energy Commission 2022a, California Energy Commission 2022b).

Energy estimates provided in the Air Quality and Greenhouse Gas Impact Assessment are summarized in Table 3.4.6-1 below:

Table 3.4.6-1
Estimated Energy Use

	Electricity (kWh/yr)	Natural Gas (kBTU/yr)
Single-family Housing	46,807,100	14,110,000
General Office Building	438,022	640,186
Strip Mall	392,436	525,726
Project Total	47,637,558	15,275,912
Merced County Total	3,185,000,000	131,200,000

As shown in Table 3.4.6-1 above, the estimated natural gas use would be approximately 11 percent of the total natural gas use of Merced County. With regard to electricity use, the proposed project would result in approximately 1.5 percent of the Merced County total electricity use. The proposed project will be subject to energy conservation requirements in the California Energy Code (24 California Code of Regulations [CCR] Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and the California Green Building Standards Code (CALGreen) (24 CCR Part 11). Adherence to Title 24 requirements would ensure that the project would not result in wasteful or inefficient use of nonrenewable resources due to operation. The project would also be required to be compliant with City of Merced General Plan Policy SD-3.2 and associated implementing actions 3.2.a through 3.2.e to encourage the use of energy conservation features, low-emission equipment, and alternative energy sources for all new residential and commercial development.

The project will comply with current applicable building code requirements, development standards, and energy efficiency requirements. Equipment used at the facility will be designed to be energy efficient and will not result in unnecessary energy use. The project would result in incremental increases in energy consumption due to new development introduced in an otherwise underutilized area; however, these incremental increases would be subject to energy code and building code standards notes above in addition to complying

with General Plan policies for energy conservation and efficiency. The project would result in a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.6b – Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Energy-saving strategies will be implemented where feasible to reduce the project's energy consumption during the construction and post-construction phases. Strategies being implemented include those recommended by the CARB that may reduce both the project's construction energy consumption, including diesel anti-idling measures, light-duty vehicle technology, usage of alternative fuels such as biodiesel blends and ethanol, and heavy-duty vehicle design measures to reduce energy consumption. Additionally, as outlined in the SJVAPCD's GAMAQI, the project includes recommendations to reduce energy consumption by shutting down equipment when not in use for extended periods, limiting the usage of construction equipment to eight cumulative hours per day, usage of electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment, and encouragement of employees to carpool to retail establishments or to remain on-site during lunch breaks.

The proposed operation of the project will be subject to energy conservation requirements in the California Energy Code (24 CCR Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and the CALGreen (24 CCR Part 11). Adherence to Title 24 requirements would ensure that the project would not result in wasteful or inefficient use of nonrenewable resources due to operation. The project would also be required to be compliant with City of Merced General Plan Policy SD-3.2 and associated implementing actions 3.2.a through 3.2.e to encourage the use of energy conservation features, low-emission equipment, and alternative energy sources for all new residential and commercial development.

Based on this analysis, the project would be consistent and not conflict with or obstruct a State or local plan related to renewable energy or energy consumption. Impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

The analysis in this section is based in part on a Phase 1 Environmental Site Assessment prepared for the project (Krazan and Associates, Inc. 2024).

Discussion

Impact #3.4.7a(i) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Merced is vulnerable to shaking from a number of faults that run through the mountains to the east and west (City of Merced 2012). There are no known active earthquake faults or Alquist-Priolo fault zones that traverse the City or project site. The nearest known fault is the Ortigalita Fault located approximately 40 miles west of the project site.

The development of the project is expected to comply with California Building Code (CBC) requirements that would ensure acceptable and safe building practices are implemented to reduce potential adverse effects from fault-related ground shaking. Therefore, with consideration of potentially active faults and mandatory compliance with CBC requirements, the project would result in a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.7a(ii) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – strong seismic ground shaking?

See discussion of Impact #3.4.7a(i) above.

The City will ensure that all new construction complies with applicable local and State regulations to reduce any potentially significant impacts to structures resulting from strong seismic ground shaking at the project site. Therefore, project impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iii) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – seismic-related ground failure, including liquefaction?

See discussion of Impact #3.4.7a(i) and (ii) above.

Liquefaction is defined as a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburdened pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: "low density," coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large magnitude earthquakes.

Areas of the City with high water tables and loose soils are likely to experience damage because of the shockwave carrying ability of the ground (City of Merced 2012). It is further noted that although no liquefaction hazard areas are identified in the City sphere of influence (SOI), the future potential of liquefaction is recognized because unconsolidated sediments and a high-water table do coincide in many areas. In response to the potential of liquefaction hazards, the City General Plan acknowledges that engineering treatment of the ground, structure or both, can stabilize hazards such as liquefaction. The General Plan provides Policy S-2.1 and its associated implementing actions 2.1.a through 2.1.f to reduce the potential danger from earthquake and seismic-related activity. The actions include the requirement of new development meeting seismic design requirements in the adopted Building Code.

However, groundwater levels at the site were reported at a depth of 165 feet below ground surface (Krazan and Associates, Inc. 2024). Based on this, project impacts related to exposing people or structures to potential substantial adverse effects involving seismic-related ground failure, including liquefaction, are less than significant. Adherence to all applicable local and State regulations would reduce or avoid any potential impacts to structures resulting from liquefaction at the project site, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7a(iv) – Would the Project Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving – landslides?

The project site is relatively flat with no significant topological features. As such, there is no potential for rock falls or landslides to impact the project in the event of a major earthquake, as the area has no dramatic elevation changes. The project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, impacts of the project are less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7b – Would the Project result in substantial soil erosion or the loss of topsoil?

The project sites and surroundings are mostly flat. Construction activities for the project may disturb minimal amounts of soils during construction and would expose these disturbed areas to erosion by wind and water. However, since the project is anticipated to disturb more than one acre of land at, the project is subject to National Pollutant Discharge Elimination System (NPDES) Program requirements. As such, it will have to develop a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP must identify potential sources of erosion or sedimentation as well as identify and implement various types of Best Management Practices (BMPs) to prevent erosion and sedimentation from occurring during construction. Typical BMPs intended to control erosion include sandbags, retention basins, silt fencing, street sweeping, etc.

Mitigation Measure MM GEO-1 requires the approval of a SWPPP to comply with the NPDES General Construction Permit. The project will comply with all grading requirements as outlined in Title 24 and Appendix J of the CBC. The project is not expected to result in substantial erosion or the loss of topsoil with the incorporation of MM GEO-1.

Once constructed, the project will have both impermeable surfaces as well as permeable surfaces. Impermeable surface would include roadways, driveways, and building sites. Permeable surfaces would include any landscaped areas. Stormwater will be directed to the stormwater drainage systems that will be developed and connected to City of Merced stormwater infrastructure. The stormwater drainage system would be constructed in accordance with the City's applicable development standards. Therefore, the development of the project would not result in substantial surface soils exposure to wind or water, and with implementation of MM GEO-1, would result in a less than significant impact.

MITIGATION MEASURE(S)

MM GEO-1: If the proposed development will disturb an area of one or more acres, prior to issuing of grading or building permits, the project applicant shall submit to the City; (1) the approved Stormwater Pollution Prevention Plan (SWPPP) and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and NPDES shall be incorporated into design specifications and construction contracts. Recommended Best Management Practices for the construction phase may include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly.
- Protecting existing storm drain inlets and stabilizing disturbed areas.
- Implementing erosion controls.
- Properly managing construction materials.
- Managing waste, aggressively controlling litter, and implementing sediment control.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.7c – Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

See discussion in Impact #3.4.7a(iii) and 3.4.7a(iv) above.

There are no slopes on or near the site, and the project would not expose the people or structures to significant risks from landslides.

The proposed project will comply with all City and State regulations pertaining to construction, including CBC and the Merced Municipal Code. In addition, the project site is not in an area that is at high risk for landslides due to the low levels of elevation change. Compliance with the existing regulatory framework would be adequate to reduce any potential impacts to less-than-significant levels. Moreover, the project will be designed by an engineer to resist potential side effects of spreading, subsidence, liquefaction, or collapse. Therefore, the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7d – Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Clay soils are typically more susceptible to expansion and subsequent hazards due to the disparity between their wet and dry compositions. Per the National Resources Conservation Service, (NRCS), Web Soil Survey, the project site consists of Wyman clay loam and Landlow silty clay loam (Natural Resources Conservation Service 2023). Wyman Clay loam is characterized as formed in alluvium originating from andesitic and basaltic rocks with a well-drained drainage class, slow to medium runoff, and moderately slow permeability. Landlow silty clay loam is characterized as moderately fine textured alluvium with somewhat poorly drained drainage class, slow runoff and slow permeability.

Implementation of General Plan Policies, and enforcement of the CBC Standards would reduce the effect of this hazard on new buildings and infrastructure associated with the proposed development. Additionally, the project will comply with applicable CBC regulations for development within specific soils types and would result in less than significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.7e – Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed project does not include private septic systems. The project will connect to the existing City sewer system for the disposal of generated wastewater during operations. The project will comply with applicable City of Merced development standards for connection to existing City sewer infrastructure. Therefore, the project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.7f – Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The City's General Plan states that there are no known sectors within the planning area known to contain sites of paleontological significance. However, the project site has likely been disturbed from past agricultural activities. Further ground-disturbing activities during construction could potentially impact previously undiscovered paleontological resources or unique geologic features. To establish proper procedure in the event of inadvertent discovery, MM GEO-2 will require a qualified paleontologist to assess the find and provide necessary steps to take to address the resource.

Therefore, implementation of MM GEO-2 would reduce impacts to less than significant levels related to paleontological resources.

MITIGATION MEASURE(S)

MM GEO-2: If any paleontological resources are encountered during ground-disturbance activities, all work within 25 feet of the find shall halt until a qualified paleontologist, as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County or another appropriate facility regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource-appropriate measures are recommended, or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Lead Agency.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.8 - GREENHOUSE GAS EMISSIONS				
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

The analyses in this section are based on an *Air Quality and Greenhouse Gas Impact Assessment* (VRPA Technologies, Inc. 2025a) attached as Appendix A. The *Air Quality and Greenhouse Gas Impact Assessment* considered build out of a higher residential lot that what is currently proposed. Therefore, it can be assumed that the greenhouse gas estimates resulting from the project would be less that those estimates in Appendix A and discussed in this IS/MND.

Impact #3.4.8a – Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Although construction of the proposed project would result in temporary emissions of greenhouse gases (GHG), the project as a whole is not expected to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The estimated GHG emissions from construction and operational activities associated with the proposed project as estimated in CalEEMod are shown below.

Table 3.4.8-1
Project GHG Emissions

	CO_2e (MT/yr)
Project Operational Emissions per year (plus amortized construction emissions)	8,120.52

Source: (VRPA Technologies, Inc. 2025a)

CARB, in consultation with Metropolitan Planning Organizations (MPO), has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Merced County Association of

Governments region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. MCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2022, projects that the Merced County region would achieve the prescribed emissions targets.

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and

- District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;

ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and

iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

Under these scenarios the project would generate 12,292.20 Metric Tons of Carbon Dioxide Equivalent per year ($MTCO_2eq./year$) using an operational year of 2005, which includes area, energy, mobile, waste, and water sources. "Business as usual" (BAU) is referenced in CARB's AB 32 Scoping Plan as emissions projected to occur in 2020 if the average baseline emissions during the 2002-2004 period grew to 2020 levels, without control or Best Performance Standards (BPS) offsets. As a result, an estimate of the project's operational emissions in 2005 were compared to operational emissions in 2020 in order to determine if the project meets the 29% emission reduction. The SJVAPCD has reviewed relevant scientific information related to GHG emissions and has determined that they are not able to determine a specific quantitative level of GHG emissions increase, above which a project would have a significant impact on the environment, and below which would have an

insignificant impact. As a result, the SJVAPCD has determined that projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG. Results of the analysis show that the project's GHG emissions in the year 2020 are 10,230.91 $MTCO_2eq./year$. This represents an achievement of 17% GHG emission reduction based on BAU, which does not meet the 29% GHG emission reduction target.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 $MTCO_2eq./year$ for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. This threshold is often used by agencies, such as the California Public Utilities Commission, to evaluate GHG impacts in areas that do not have specific thresholds. Therefore, because this threshold has been established by the SCAQMD in an effort to control GHG emissions in the largest metropolitan area in the State of California, this threshold is considered a conservative approach for evaluating the significance of GHG emissions in a more rural area, such as Merced County. Though the project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the project.

CARB's California GHG Emissions Inventory provides estimates of anthropogenic GHG emissions within California, as well as emissions associated with imported electricity; natural sources are not included in the inventory. California's GHG emissions for 2020 totaled approximately 358.76 million $MTCO_2eq$. The proposed project's GHG emissions represent less than 0.001% of the total GHG emissions for the state of California when compared to year 2018 emissions data. Based on the assessment above, the project will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, any impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.8b – Would the Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

California passed the California Global Warming Solutions Act of 2006. Assembly Bill (AB) 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011, to achieve reductions in GHGs to meet the

1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

SB 375 requires MPOs to adopt an SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. MCAG's 2022 RTP/SCS, which was adopted in August 2022, projects that the Merced County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. MCAG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in the AQPs. The applicable General Plan for the project is County of Merced 2030 General Plan Update, which was adopted in 2012.

The project is consistent with the currently adopted General Plan for Merced and the adopted MCAG 2022 RTP/SCS and is therefore consistent with the population growth and VMT applied in those plan documents. Therefore, the project is consistent with the growth assumptions used in the applicable AQP. It should also be noted that yearly GHG emissions generated by the project are approximately 19% less than the threshold identified by the SCAQMD (see the discussion for Impact 3.4.8a above).

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the project's consistency with those strategies.

- California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicles, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.
    - The project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable

to light-duty vehicles that would access the project. The project would not conflict or obstruct this reduction measure.

- Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.

    - The project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the project would comply with this measure through existing regulation. The project would not conflict or obstruct this reduction measure.

- Low Carbon Fuel – Development and adoption of the low carbon fuel standard.

    - The project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the project. The project would not conflict or obstruct this reduction measure.

Based on the assessment above, the project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, any impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

3.4.9 - HAZARDS AND HAZARDOUS MATERIALS

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

Discussion

The discussion below is based on the Phase I Environmental Site Assessment (ESA) completed for the project, attached as Appendix D (Krazan and Associates, Inc. 2024).

Impact #3.4.9a – Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the project would involve the temporary transport and use of minor quantities of hazardous materials such as fuels, oils, lubricants, hydraulic fluids, paints, and solvents. The types and quantities of hazardous materials to be used and stored on-site would not be of a significant amount to create a reasonably foreseeable upset or accident condition. The handling and transport of all hazardous materials on-site would be performed in accordance with all applicable federal, State, and local laws and regulations. Designated truck routes in the City of Merced include SR-99 and SR-140 (Federal Motor Carrier Safety Administration 2024). The Merced City Fire Department would respond to any hazardous materials incident and additional fire department units would respond as necessary.

A review of the EnviroStor database and the Geotracker database did not identify any active hazardous material site or hazardous material cleanup site in proximity of the project site (California Department of Toxic Substances Control 2024, State Water Resources Control Board 2024).

Construction

Minor amounts of hazardous and non-hazardous materials and construction waste would likely be transported to and from the project site during the construction phase of the proposed project. Any hazardous waste or debris that is generated during the construction of the proposed project would be collected and transported away from the site and disposed of at an approved offsite landfill or other such facilities. In addition, sanitary waste generated during construction would be managed through portable toilets, which would be located at reasonably accessible onsite locations. Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., may be used during construction. These materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. Residential and commercial construction generally utilize fewer hazardous chemicals or chemicals in relatively small quantities and concentrations compared to industrial uses. No significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous waste during the construction or operation of the new residential development would occur.

Operations

Once constructed, the use of such materials as paint, bleach, etc., is considered common for residential developments. It would be unlikely for such materials to be stored or used in such quantities that would be considered a significant hazard.

For future commercial uses, operations may include the use of materials that require reporting to the local Certified Unified Program Agency (CUPA) and approval of a hazardous materials business plan (HMBP). The County of Merced Division of Environmental Health (MCDEH) serves as the local CUPA. Should the commercial operation handle a hazardous material or mixture containing a hazardous material equal or greater to 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gas, a HMBP is required to be submitted and approved by the local CUPA. The purpose of the HMBP is to provide an inventory of hazardous materials at a facility, provide emergency response plans and procedures to follow in the event of a reportable release or threatened release of hazardous materials, and storage and safety procedures for the hazardous material. Therefore, under regulatory requirements, should the commercial operation handle or store hazardous materials exceeding State and local reporting thresholds, a HMBP will be required to be prepared.

Operational activities will comply with the CBC, local building codes, and applicable safety measures, in addition to preparation and approval of a HMBP as necessary to ensure that no significant hazard is generated.

Based on the analysis above, project construction and operation are not anticipated to result in significant impacts due to the transportation, use, or disposal of hazardous materials. Therefore, project impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9b – Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

See the discussion on Impact #3.4.9a above.

The Phase I ESA conducted a historical review of the property including aerial photographs, pertinent building permit records, interviews with previous and current ownership, review of regulatory agency records, and a site reconnaissance. The results of the Phase I ESA found no evidence of recognized environmental conditions (REC), controlled RECs (CREC), or historical RECs (HREC) in connection with the subject site. A review of historical aerial photographs indicate that the northern portion of the subject site was occupied by a rural residential area. This area included varying numbers of dwellings, barns, and other outbuildings with at least three barn-type structures present in 1950 and five to six barn-type structures present in 1984 likely in support on an on-site farming operation. There are no historical records or indication that an underground storage tank is located on the project

site. However, the Phase I ESA that although there is no evidence of the presence of an underground storage tank, a very low possibility of an unregistered underground storage tank (UST) can exist due to the historical nature of the site. Removal of an unregistered UST would be subject to permit by the Merced County Environmental Health Division and would appropriately address handling and procedure for removal activities.

Historical review also indicate that the subject site was utilized for agricultural purposes. While there is a potential that environmentally persistent pesticides/herbicides may have been applied to the crops grown on the subject site prior to the 1970s, no chemical spray rig filling/mixing areas or chemical storage areas were observed during the site reconnaissance, no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and the subject site does not appear to have been occupied by a vineyard or an orchard which are typically more directly correlated with the historical use of environmentally persistent pesticides/herbicides (Krazan and Associates, Inc. 2024). The Phase I ESA concludes that the potential for elevated concentrations of environmentally persistent pesticides/herbicides to currently existing in the near-surface soils of the subject site appear to be low.

Additional site development includes the proper abandonment of any existing water wells and septic systems associated with the historical use of the site. Should a previously unidentified water well or septic system be identified during project implementation, proper abandonment in accordance with State and local guidelines would be followed.

Per the California Department of Toxic Substances Control (DTSC) Envirostor database, the project site is not located on a listed hazardous materials/waste facility (California Department of Toxic Substances Control 2024). Additionally, there are no records of leaking underground storage tanks on the project site (State Water Resources Control Board 2024). There are no active Geologic Energy Management Division (CalGEM) identified oil or gas fields within the project site (CalGEM 2024).

Consequently, the project is not anticipated to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions. As discussed above, there is no evidence of a significant environmental condition on the project site that could potentially result in a significant impact. Therefore, as discussed above, should a previously unidentified condition be identified, that could result in upset or accidental hazardous material spill, regulatory procedures including proper abandonment/removal of the condition would be followed and the project impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9c – Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

See Impacts #3.4.9a and b above.

The project site is located approximately 0.25 miles east of Pioneer Elementary School. Construction activities of the proposed project will result in the temporary use of hazardous materials and or substances, such as lubricant and diesel fuel, during construction. As noted in Impact #3.4.3b, exhaust from construction and related activities is expected to be minimal and would not create a significant impact.

Once constructed, the residential portion of the project is unlikely to have materials that are considered hazardous. As noted in above, commercial businesses that store or use hazardous materials that exceed thresholds will prepare a HMBP that would be submitted and approved by the local CUPA. The purpose of the HMBP is to provide an inventory of hazardous materials at a facility, provide emergency response plans and procedures to follow in the event of a reportable release or threatened release of hazardous materials, and storage and safety procedures for the hazardous material. Commercial activities will comply with the CBC, local building codes, and applicable safety measures, in addition to preparation and approval of a HMBP as necessary to ensure that no significant hazard is generated Therefore, the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.9d – Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

See Impact 3.4.9b

An online search was conducted to identify hazardous waste locations on or near the project site. The search indicated that there are no reported hazardous or toxic sites within the project site (California Department of Toxic Substances Control 2024).

There is no data identifying any facilities in the vicinity that might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials, substances, or wastes that might affect the proposed residential development. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9e – For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

The project site is located approximately 4 miles east of the Merced Regional Airport. The project site is located outside of the airport influence area, as identified in the Merced County Airport Land Use Compatibility Plan (ALUCP) (Merced County Airport Land Use Commission 2012). Therefore, the project is not within two miles of an airport and would not create a safety hazard or generate excessive noise for people working in the project area. As such, there would be no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be *no impact*.

Impact #3.4.9f – Would the Project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

The 2021-2026 Merced County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) identifies hazards present within the County, provides a risk assessment for the respective hazard, and adopts mitigation strategies to reduce risk. In addition to the Merced County MJHMP, the project will be required to comply with City safety requirements adopted in Fire Code and other code requirements for emergency response. These requirements will include the meeting minimum emergency access requirements and fire suppression requirements.

The proposed project would not inhibit the ability of local roadways to accommodate emergency response and evacuation activities. Therefore, the impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.9g – Would the Project Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

According to available data from Cal Fire, the project site, is within a Local Responsibility Area (LRA) Unzoned Fire Hazard Severity Zone (Cal Fire 2007). The General Plan includes policies that would protect the project and the community from fire dangers that would be followed during the construction and operation of the project. These policies include maintaining reasonable levels of accessibility and infrastructure support for fire suppression, disaster, and other emergency services, maintaining standards defined in the Fire Code, and enforce nuisance abatement programs regarding weeds during the dry season.

Construction activities and the project operation are not expected to increase the risk of wildfires on and adjacent to the project site. The project will comply with all applicable State and local standards as required by local fire codes. Therefore, the project would have less-than-significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.10 - HYDROLOGY AND WATER QUALITY				
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
ii. Substantially increase the rate of amount of surface runoff in a manner which would result flooding on- or off-site?	☐	☒	☐	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

Discussion

The discussion below is based on the Water Supply Assessment (WSA) completed for the project, attached as Appendix E (QK 2025) The Water Supply Assessment considered build

out of a larger number of residential lots than is currently proposed. Therefore, it can be assumed that the water usage estimates resulting from the project would be less than those estimated and discussed in this IS/MND.

Impact #3.4.10a – Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality?

The proposed project construction and groundbreaking activities have the potential to cause erosion, sedimentation, and discharge of construction debris from the project site. Clearing of vegetation and grading activities, for example, could lead to exposed or stockpiled soils susceptible to peak stormwater runoff flows. Also, the compaction of soils by heavy equipment may minimally reduce the infiltration capacity of soils (exposed during construction) and increase runoff and erosion potential. The presence of significant amounts of raw materials for construction, including concrete and asphalt, may lead to stormwater runoff contamination. If uncontrolled, these materials could lead to water quality problems, including sediment-laden runoff, prohibited non-stormwater discharges, and ultimately the degradation of downstream receiving water bodies. As discussed previously, the project would disturb more than one-acre and would be required to prepare a SWPPP and would ensure implementation of BMPs that address potential issues related to soil erosion and contaminated runoff. Implementing BMPs for construction activities, such as the use of straw waddle sandbags, silt fencing, swales, street sweeping, etc., will be implemented and would reduce stormwater runoff to a less-than-significant impact during construction activities.

The project's surface or groundwater water quality impacts are expected to be less than significant with incorporation of MM GEO-1 as the preparation and approval of a SWPPP would ensure BMPs for construction activities would be implemented and reduce potential impacts on water quality.

MITIGATION MEASURE(S)

Implementation of MM GEO-1.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated.***

Impact #3.4.10b – Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

The California Department of Water Resources, (DWR) has divided the State into 10 Hydrologic Regions. The project site is located within the San Joaquin River Hydrologic Region in a Basin ranked as "high priority" in a Statewide ranking of groundwater importance. The Region encompasses approximately 5,246 square miles. the City of Merced is located in the Merced Subbasin (DWR Subbasin 5-22.04) which is in the greater San Joaquin River hydrologic region (DWR Basin 5.22), and also within the larger San Joaquin

Valley Groundwater Basin (QK 2025). The Merced Subbasin covers approximately 767 square miles. The Merced subbasin includes lands south of the Merced River between the San Joaquin River on the west and the crystalline basement rock of the Sierra Nevada foothills on the east. The subbasin boundary on the south stretches westerly along the Madera-Merced County line (Chowchilla River) and then between the boundary of the Le Grand-Athlone Water District and the Chowchilla Water District. The boundary continues west along the northern boundaries of Chowchilla Water District and El Nido Irrigation District. The southern boundary then follows the western boundary of El Nido I.D. south to the northern boundary of the Sierra Water District, which is followed westerly to the San Joaquin River.

Groundwater in the Basin is used for all water supply for the City. The city participates in and is a member of the Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA). MIUGSA is part of the Merced Groundwater Subbasin Groundwater Sustainability Plan (MGSGSP). The City has an estimated service population of approximately 99,100 people. In 2020, approximately 20,076 acre-feet (6,542 million gallons) of water was delivered to an estimated 22,969 water service connections of which approximately 67% of the water use is for residential services. The remainder are for educational, commercial and industrial uses. The City currently utilizes local groundwater as its source of water supply. Groundwater is extracted from 20 wells located within the city's sphere of influence.

Water needed for construction will be obtained from the City, who has confirmed sufficient water to supply the project. The current water distribution system is adjacent to the project site. The construction process is estimated to take place in stages during an approximately seven-year period. During this seven-year period, it is assumed that each acre of land will require a total of one year to construct. Construction water demands are estimated to be approximately 225 gpd/acre for the duration of construction or 17.34 acre-feet, which is equivalent to approximately 5,650,200 gallons (225 gpd/acre x 68.8 total acres to be developed x 365 days per acre). Bottled drinking water will be provided for crews during construction activities. Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, building foundations and project components, the principal use of water would be for compaction and dust control. Smaller quantities of water would be required for the preparation of the concrete of foundations and other infrastructure. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with construction of the buildings, internal access roads, and revegetation.

The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 137.89 million gallons per year or 492.42 acre-feet (AF) per year for the total build out of the project (QK 2025). This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average in the 2020 City of Merced Urban Water Management Plan (UWMP) and 3.5 people per lot) across the entire buildout of 587 lots.

However, as noted, the proposed number of residential lots was reduced, and therefore, the long-term average day operational water demand will be for the residential and commercial

users and is anticipated to be approximately 131.8 gallons per year or 404.48 acre-feet per year for the total build out of the project with a buildout of 570 lots.

The water demand for the 9.1-acre commercial development is estimated to be 2.16 million gallons per year or 7.71 acre-feet per year (based on a commercial water use of 650 gpd/acre).

Tables 3.4.10-1 through 3 show the normal year supply and demand comparison, the single dry year supply and demand comparison, and the multiple dry year supply and demand comparison.

Table 3.4.10-1
Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply Totals (AF)	24,418	26,751	28,995	31,825	-
Demand Totals (AF)	24,418	26,751	28,995	31,825	-
Difference	0	0	0	0	-

Source: (QK 2025)

Table 3.4.10-2
Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply Totals (AF)	29,301	32,101	34,794	38,190	-
Demand Totals (AF)	29,301	32,101	34,794	38,190	-
Difference	0	0	0	0	-

Source: (QK 2025)

Table 3.4.10-3
Multiple Dry Year Supply and Demand Comparison

		2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045(Opt) (AF)
First year	Supply Totals	26,860	29,426	31,895	35,008	-
	Demand Totals	26,860	29,426	31,895	35,008	-
	Difference	0	0	0	0	-

Second year	Supply Totals	39,301	32,101	34,794	38,190	-
	Demand Totals	39,301	32,101	34,794	38,190	-
	Difference	0	0	0	0	-
Third year	Supply Totals	26,860	29,426	31,895	35,008	-
	Demand Totals	26,860	29,426	31,895	35,008	-
	Difference	0	0	0	0	-
Fourth year	Supply Totals	19,534	21,401	23,196	25,460	-
	Demand Totals	19,534	21,401	23,196	25,460	-
	Difference	0	0	0	0	-
Fifth year	Supply Totals	19,534	21,401	23,196	25,460	-
	Demand Totals	19,534	21,401	23,196	25,460	-
	Difference	0	0	0	0	-

Source: (QK 2025)

The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 137.89 million gallons per year or 423.2 acre-feet per year for the total build out of the project. This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average in the 2020 City of Merced Urban Water Management Plan and 3.5 people per lot) across the entire buildout of 587 lots. The water demand for the 9.1-acre commercial development is estimated to be 2.16 million gallons per year or 6.63 acre-feet per year (based on a commercial water use of 650 gpd/acre).

With consideration of the smaller lot count of 570 proposed for the project, the water demand would be less than what was considered in the WSA. The proposed project at 570 lots would result in an operational demand (3.5 people per lot and 181-gallon per capita/day) of 1,31.8 gallons per year or 404.48 acre-feet per year.

The project water demand is included in the projected increase in water demand if a fifth dry year of 19,534 AF from 2025 to 25,460 AF 2040 (Table 3.4.10-3). The project long-term operational water demand is 1.58% (404.48 AF/25,460 AF) of the available water supply in the city and therefore impacts are anticipated to be less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10c(i) –Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

As discussed in Impact #3.4.10a above, potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts as a result of soil disturbance would be less than significant after implementation of a SWPPP (MM GEO-1) and BMPs required by the NPDES.

The existing drainage pattern of the site and area would be affected by project development due to grading, the installation of streets, structures and the increase in impervious surfaces. The construction of the project includes the development of stormwater drainage infrastructure and would be developed to meet City standards. The project will comply with local regulations in order to minimize impacts during construction and post-construction of the project. The project will not alter a stream or river. With the implementation of MM GEO-1, BMPs for erosion or siltation on- or off-site would be implemented and result in a less than significant.

MITIGATION MEASURE(S)

Implementation of MM GEO-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(ii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate of amount of surface runoff in a manner which would result flooding on- or off-site?

See also Impact #3.4.10c(i) above.

The project sites do not contain any water features, streams, or rivers. Existing drainage pattern of the site would be affected by project development because of the increase in impervious surfaces at the site. The addition of impervious surfaces can increase the potential for stormwater runoff and soil erosion. All project components will comply with the City of Merced Municipal Code for urban storm water quality management.

The project would not cause substantial surface runoff that would result in flooding on- or off-site. Therefore, with implementation of MM GEO-1, impacts would be less than significant.

MITIGATION MEASURE(S)

Implementation of MM GEO-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.10c(iii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Please see Impacts #3.4.10a through c(ii) above.

The project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, nor provide additional sources of polluted runoff. Therefore, the project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.10c(iv) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Please see Impacts #3.4.10a through c(ii) above.

As discussed in Impact # 3.4.4c, there were no wetlands on the site. However, there is a water feature- an irrigation ditch runs north/south (originally part of the Farmdale lateral) along the eastern area of the project site. The ditch running east to west in the northerly portion of the appears to either terminate and cut off by Campus Parkway and East Gerard Avenue or be undergrounded approximately 700 feet west of project boundaries and is no longer in use. These water features appear to have limited to no indication of inundation or water flow and therefore, can be considered remnant features.

The project is anticipated to be developed on relatively flat land and would not significantly impede flood flows. Therefore, the project will have a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.10d – Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

The project site is within a 100-year floodplain as indicated by the FEMA map for the area. Because of this, the project could impede or redirect any flood flows. Flooding on the project site could reach a depth of one foot. Merced Municipal Code Chapter 17.48 addresses flood damage prevention and construction within Special Flood Hazard Areas. Section 17.48.135 requires a development permit before the start of construction within a Special Flood Hazard Area. The application for a development permit shall include plans that, among other requirements, show base flood elevation information and proposed elevation, in relation to mean sea level, of the lowest floor. Section 17.48.140 sets forth construction standards for structures within the Special Flood Hazard Area, including the use of materials resistant to flood damage, the use of construction methods and practices that minimize flood damage, and (for AH and AO zones) adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures. In addition, new construction and substantial improvement in Zone AO shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM, or at least two feet if no depth number is specified. For this project, the elevation would be one foot.

Compliance with the requirements of Merced Municipal Code Chapter 17.48 would reduce potential flooding impacts related to the project, including impeding or redirecting flood flows and would be less than significant.

The project site is not located near the ocean or a steep topographic feature (i.e., mountain, hill, bluff, etc.). Tsunamis are waves generated in oceans from seismic activity. Due to the inland location of the site, tsunamis are not considered a hazard for the site. Therefore, there is no potential for the site to be inundated by tsunami or mudflow.

A seiche is a wave generated by the periodic oscillation of a body of water whose period is a function of the resonant characteristics of the containing basin as controlled by its physical dimensions. There is no body of water within the vicinity of the project site. There is no potential for the inundation of the project site by seiche.

The General Plan identifies dam failure inundation areas resulting from Bear Reservoir and Yosemite Lake. The project site is located outside of the dam failure inundation areas. As the

project site is not likely to be impacted due to dam failure impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.10e – Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

See Impacts #3.4.10a and Impact #3.4.10b.

The project's long-term operational water demand is 1.58% (404.48 AF/25,460 AF) of the available water supply in the City and therefore a less than significant impact is foreseen. Utilizing data from the UWMP, it was found that the anticipated water supply for the City would be sufficient to accommodate the project (QK 2025).

The project will comply with all applicable local and State standards during construction and operation including preparation and approval of a SWPPP as per MM GEO-1. This project is not anticipated to use or substantially deplete groundwater supplies or conflict with any adopted groundwater management plan. Therefore, this project will have a less-than-significant impact.

MITIGATION MEASURE(S)

Implementation of MM GEO-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant mitigation incorporated.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.11 - LAND USE AND PLANNING

Would the Project:

a.	Physically divide an established community?	☐	☐	☐	☒
b.	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Discussion

Impact #3.4.11a – Would the Project physically divide an established community?

The project site is approximately 73.7-acres located in the southeast portion of the City. The property is bound by East Mission Avenue with predominantly cultivated fields to the south, undeveloped commercial land to the west, vacant land to the east, and East Gerard Avenue with residential land to the north. The proposed project site would not create a division between any established communities. The proposed project would not physically divide an established community. Therefore, the project will have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

Impact #3.4.11b – Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project includes a General Plan Amendment to change 61.7 acres from the Business Park and Manufacturing/Industrial land use designation to the Low-Medium Density Residential and High-Medium Density Residential land use designations.

The following General Plan Goals, Policies, and Implementing Actions have been identified that pertain to proposed land use designations associated with the project.

Policy L-1.1: Promote balanced development which provides jobs, services and housing.

Policy L-1.2: Encourage a diversity of building types, ownerships, prices, designs, and site plans for residential areas throughout the City.

Policy L-1.3: Encourage a diversity of lot sizes in residential subdivisions.

Policy L-1.6: Continue to pursue quality single-family and higher density residential development.

Implementing Action 1.3.a: Continue the use of Residential Planned Developments to provide for smaller lot sizes in single-family developments.

Implementing Action 1.6.a: Continue to review proposed subdivision designs to ensure the provision of adequate circulation, public improvements, common open space, landscaping, maintenance, etc. through the Development Review process.

Policy OS-3.1: Provide high-quality park and open space facilities to serve the needs of a growing population.

Implementing Action 3.1.a: Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation open space needs of an expanding population.

The project may potentially conflict with General Plan Policy 3.1, which seeks to avoid or minimize the risk of flooding to new development. As described in Impact #3.10d, the project is within a Special Flood Hazard Area. However, the project would comply with the provisions of Merced Municipal Code Chapter 17.48, which addresses flood damage prevention and construction within Special Flood Hazard Areas. This would be consistent with General Plan Implementing Action 3.2.b, which requires new development and substantial improvements or upgrades in identified FEMA flood hazard zones (i.e., 100- and 500-year floodplains) to be constructed in accordance with applicable city, State, and federal regulations, including compliance with the minimum standards of the Federal Emergency Management Agency and the National Flood Improvement Program to avoid or minimize the risk of flood damage.

The project would be consistent with the identified Goals, Policies and Implementing Actions of the City General Plan. In addition to the General Plan Goals, Policies and Implementing Actions, the proposed project would assist the City in meeting its Regional Housing Needs Allocation (RHNA) of 10,517 units for the 2023-2032 planning period (Merced County Association of Governments 2022). RHNA is based on countywide housing projections developed by the California Department of Housing and Community Development (HCD). HCD works with the regional Council of Governments to determine the amount of housing needed within the region. As such, the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Therefore, impacts of the project would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

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

Discussion

Impact #3.4.12a – Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The California Department of Conservation, Geological Survey classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974. These MRZs identify whether known or inferred significant mineral resources are present in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the State into their General Plans. The State has not identified any mineral resource zones within the Merced planning area or area designated for future expansion of the City (City of Merced 2012).

The project sites are not located in an identified CalGEM oilfield, and there are no known wells located on the site (CalGEM 2024). The proposed project would not result in the loss of availability of mineral resources as the project does not propose the extraction of mineral resources.

The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, the project would have no impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

Impact #3.4.12b – Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The proposed project is not designated as a mineral recovery area and the project would not alter any existing plans that protect mineral resources. As a result, the proposed project would not interfere with known mining operations and would not result in the loss of land designated for mineral and petroleum.

The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, the project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.13 - NOISE				
Would the Project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

The analyses in this section are based on an Acoustical Analysis (WJV Acoustics 2024) attached as Appendix F.

Impact #3.4.13a – Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

The Noise Element of the Merced Vision 2030 General Plan sets noise compatibility standard for transportation noise sources in terms of the Day-Night Average Level (Ldn) or Community Noise Equivalent Level (CNEL) to describe noise exposure for noise compatibility planning purposes. Both the Ldn and CNEL represent the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The CNEL includes an additional penalty of 5 dB that is added to noise levels occurring during the evening hours between 7:00 p.m. and 10:00 p.m. Both the Ldn and CNEL represent cumulative exposure to noise over an extended period of time and are therefore calculated based upon annual average conditions.

Policy N-1.4 states "A maximum of 65 dB Ldn/CNEL for exterior noise level for residential projects proximate to major roadway and railroad corridors. For other arterial, collector and local streets a maximum of 60 dB Ldn/CNEL exterior noise with a maximum of 65 dB Ldn/CNEL when all the best available noise-reduction techniques have been exhausted without achieving 60 dB, and the strict application of such a maximum becomes a hindrance to development needed or typical for an area."

Policy N-1.4 of the Noise Element establishes land use compatibility criteria for exterior and interior residential spaces. The City of Merced noise compatibility matrix, for transportation noise sources, is provided as Table I of the Noise Element. Table II of the Noise Element provides the City of Merced noise level standards for non-transportation (stationary) noise sources. These nose standards typically apply to outdoor activity areas. Outdoor activity areas generally include backyards of single-family residences, individual patios or decks of multi-family developments and common outdoor recreation areas of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation. Additionally, Policy N-1.4 of the Noise Element requires that interior noise levels attributable to exterior transportation noise sources not exceed 45 dB Ldn. The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep.

Construction-related noise levels and activities will be temporary and intermittent. The proposed project will generate noise from construction equipment including, but not limited to the following equipment: tractor, loaded truck, forklifts, generator, crane, paver, roller, compactor, and an air compressor. Additionally, traffic and the various other noises generally associated with construction activities will be temporary and only take place during permitted hours. In addition, the construction-related noise will be intermittent and cease once the proposed project is completed. MM NSE-04 will address concerns of those residing in existing residential units and the temporary construction activities by limiting the time for those activities from 7:00 A.M. to 7:00 P.M. unless otherwise regulated by City ordinance. This time restriction is consistent with other noise mitigation implemented for other residential developments.

The project site is generally located east of South Coffee Street (and east of the future alignment of Pluim Drive), south of Gerard Avenue and north of Mission Avenue. The project site is bisected by Campus Parkway. Exposure of the project to noise levels associated with vehicle traffic on these roadways is expected.

The distances from the center of the individual residential lot backyards to the centerline of the roadways of concern are approximately as follows:

- East Gerard Avenue: 70 feet
- Campus Parkway: 100 feet
- East Mission Avenue: 75 feet

Noise exposure from traffic on East Gerard Avenue (west of Campus Parkway), Campus Parkway (east of Coffee Street) and Mission Avenue (east of Coffee Street) was calculated for existing and future (2046) conditions using the Federal Highway Administration (FHWA) Traffic Noise Model and traffic data obtained from MCAG. A description of the FHWA traffic noise model and methodology used is provided in the prepared Acoustical Analysis.

Noise level measurements and concurrent traffic counts were taken as part of the acoustical analysis of the project (WJV Acoustics 2024). The purpose of the measurements was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. Two traffic noise measurement sites were located along Campus Parkway (one on the north side of the roadway and one on the south side of the roadway) and one traffic noise measurement site was located within the project site, along the south side of Gerard Avenue. Traffic volumes along Mission Avenue were too low at the time of the project site visit to accurately perform a model calibration noise measurement. Noise measurements were conducted in terms of the equivalent energy sound level (Leq). Measured Leq values were compared to Leq values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of the comparison are shown in Table 3.4.13-1.

Table 3.4.13-1
Comparison of Measured and Predicted Noise Levels, Merced Gateway Residential Development

	Campus Pkwy (north side)	Campus Pkwy (south side)	Gerard Ave
Measurement Time	2:30 PM	2:55 PM	3:20 PM
Observed # of Autos/hr	372	492	216
Observed # of Medium Trucks/hr	24	72	0
Observed # of Heavy Trucks/hr	12	12	12
Observed Speed (MPH)	55	55	35
Distance, ft. (from center of roadway)	180	165	50
Leq, dBA (Measured)	52.3	55.4	59.9
Leq, dBA (Predicted)	58.5	61.0	60.8
Difference between Predicted and Measured Leq, dBA	6.2	5.6	0.9

Source: (WJV Acoustics 2024)

From the results of the measurements and FHWA predictions, it may be determined that the traffic noise levels predicted by the FHWA Model were approximately 6 dB higher than those measured for the conditions observed at the time of the noise measurements for Campus Parkway. This overprediction of the model is due to topographic shielding of traffic noise as a result of the elevated roadway over the project site area. However, for the purpose of this analysis and the offset was not applied to modeled traffic noise exposure levels, and noise exposure levels described along Campus Parkway should therefore be considered a worst-case assessment. Traffic noise levels predicted by the FHWA model were 0.9 decibels (dB) higher than those measured for the conditions observed at the time of the noise measurement along Gerard Avenue. This is considered to be reasonable agreement between the noise model and the noise measurements, and therefore no adjustments to the model are necessary along Gerard Avenue.

Exterior Noise Level Compliance

Annual average traffic noise exposure was calculated for the closest proposed residential lots from Gerard Avenue, Campus Parkway and Mission Avenue. Table 3.4.13-2 provides the noise exposure levels at these roadways for future 2046 traffic conditions, at the closest proposed residential setbacks from each roadway.

Table 3.4.13-2
Modeled Traffic Noise Exposure Levels, dB, Ldn

Roadway	Existing Conditions	2046 Conditions
Gerard Avenue	53	54
Campus Parkway	60	62
Mission Avenue	52	52

Source: (WJV Acoustics 2024)

Table 3.4.13-2 indicates that the traffic noise exposure at the closest residential setbacks to Campus Parkway would be approximately 60 dB Ldn for existing conditions and approximately 62 dB Ldn for future (2046) traffic conditions on Campus Parkway (based upon the traffic volumes provided by MCAG). Such noise exposure levels exceed the City of Merced exterior noise level standard of 60 dB Ldn, and mitigation measures must be included in project design along Campus Parkway. Traffic noise levels at the closest proposed residential lots to both Gerard Avenue and Mission Avenue would not be expected to exceed 60 dB Ldn (based upon the traffic volumes provided by MCAG) and mitigation measures are therefore not required for noise compliance along these roadways. However, exterior noise levels at the closest proposed residential lots along Campus Parkway would be expected to exceed the City of Merced exterior noise level standard of 60 dB Ldn for residential land uses, and a sound wall will be required along the project site adjacent to Campus Parkway.

A sound wall insertion loss program based on the FHWA model was used to calculate the insertion loss (noise reduction) provided by the proposed sound walls. The model calculates the insertion loss of a wall of given height based on the effective height of the noise source, height of the receiver, distance from the receiver to the wall, and distance from the noise

source to the wall. The standard assumptions used in the sound wall calculations are effective source heights of 8, 2 and 0 feet above the roadway for heavy trucks, medium trucks, and automobiles, respectively. The standard height of a residential receiver is five (5) feet above the ground elevation. Additionally, Campus Parkway is elevated approximately 3-4 feet above project site grade, adjacent to the project site areas. Based upon the above-described assumptions and method of analysis, the noise level insertion loss values for the proposed sound walls were calculated. The calculations indicated that the proposed 7-foot sound wall along Campus Parkway would reduce exterior noise exposure at the residential lots adjacent to Campus Parkway by approximately 5 dB, with the resulting noise exposure of 57 dB Ldn. Such levels would not exceed the City of Merced exterior noise standard of 60 dB Ldn (WJV Acoustics 2024).

The installation of a masonry block wall with a minimum height of 7 feet will be included as Mitigation Measure MM NSE-1 to ensure that the noise levels from Campus Parkway traffic do not exceed City of Merced Noise Element thresholds. The sound walls would be effective at first-floor receiver locations only. As such, if second-floor balconies are included in the units that back onto Campus Parkway, exterior noise levels at any second-floor balconies would exceed the 60 dB Ldn exterior noise level thresholds. Mitigation measure MM NSE-2 prohibits the use of outdoor balconies on the second floor of those lots adjacent to Campus Parkway. The design restrictions so that there are no second-floor balconies of residences abutting Campus Parkway will be recommended as MM NSE-02.

Interior Noise Level Compliance

The interior noise level standard for the City of Merced is 45 dB Ldn. Worst-case exterior project site noise exposure was determined to be approximately 62 dB Ldn for 2046 traffic conditions along Campus Parkway. This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 17 dB (62-45=17).

A specific analysis of interior noise levels was not performed. However, it may be assumed that residential construction methods complying with current CBC and City requirements will reduce exterior noise levels by approximately 25 dB if windows and doors are closed. This will be sufficient for compliance with City 45 dB Ldn interior standard at all proposed residential units. Mitigation Measure MM NSE-3 requires that air conditioning or mechanical ventilation be installed in each residential unit so windows and doors to remain closed for sound insulation. With implementation of MM NSE-3, interior noise levels are not expected to exceed Merced noise thresholds.

The implementation of Mitigation Measures MM NSE-1 through MM NSE-3 as recommended in the prepared Acoustical Analysis will ensure that proposed residential development along Campus Parkway will not exceed City Noise Element interior and exterior noise level standards, and impacts would be less than significant.

MITIGATION MEASURE(S)

MM NSE-1: A sound wall shall be constructed to a minimum height of 7 feet above ground level along the residential portions of the project site that are directly adjacent to Campus Parkway. Suitable construction materials include concrete blocks, masonry, or stucco on both sides of a wood or steel stud wall.

MM NSE-2: Two-story home construction of lots that will be directly adjacent with Campus Parkway shall be constructed without second-floor balconies. A note prohibiting such second-floor balconies shall be placed as a Note on the VSTM #1333, and all plans and specs.

MM NSE-3: Air conditioning or mechanical ventilation shall be installed in the units so that it will be possible for windows and doors to remain closed for sound insulation purposes.

MM NSE-4: Unless further restricted in the City of Merced Municipal Code, grading and construction shall not take place beyond the hours of 7:00 A.M. and 7:00 P.M. Monday-Sunday.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

Impact #3.4.13b – Would the Project result in generation of excessive ground-borne vibration or ground-borne noise levels?

Construction

Construction activities, in general, can have the potential to create ground-borne vibrations. It is unlikely that any blasting or pile-driving would be required in connection with the construction of the project. Construction activities most likely to cause vibrations include heavy construction equipment. Therefore, the potential for ground-borne vibrations to occur as part of the construction of the project is considered minimal.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations (Federal Highway Administration (FHWA), U.S. Department of Transportation 2017). In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between the vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The typical vibration produced by construction equipment is illustrated in Table 3.4.13-2.

Table 3.4-3
Typical Vibration Levels for Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Loaded trucks	0.076	0.010
Vibratory compactor/roller	0.210	0.026

Notes:
1 – Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006. Table 12-2.
2 – Calculated using the following formula:
$PPV_{equip} = PPVref \times (25/D)1.5$
where: PPV (equip) = the peak particle velocity in inches/second of the equipment adjusted for the distance PPV (ref) = the reference vibration level in inches/second from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines
D = The distance from the equipment to the receiver

As indicated in Table 3.4.13-2, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during project construction range from 0.076 to 0.210 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. The closest sensitive receptors are two existing single-family residences to the west and are located approximately 20 from the southwestern boundary of the project site. The remaining single-family residences to the east of the project area are located approximately 55 feet from the project boundary. With regard to the proposed project, ground-borne vibration would be generated during site clearing and grading activities on-site facilitated by implementation of the proposed project. It should be noted that 0.2 inch-per-second PPV is a conservative threshold, as that is the construction vibration damage criteria for non-engineered timber and masonry buildings. Buildings within the project area would be better represented by the 0.5 inch-per-second PPV significance threshold (construction vibration damage criteria for reinforced concrete, steel, or timber buildings). Therefore, vibration impacts associated with construction are anticipated to be less than significant.

Operation

Once constructed, the project would not result in any activities that would create ground-borne vibrations. Thus, the proposed project would not result in the exposure of sensitive receptors or generate excessive ground-borne vibration or ground-borne noise levels. Therefore, the project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.13c – For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport

or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The Merced Regional Airport is approximately 4.3 miles west of the project site. The project site is located outside of the airport influence area, as identified in the Merced County ALCUP (Merced County Airport Land Use Commission 2012). Therefore, the project would not expose people residing or working in the project area to excessive noise levels and there would be no impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact.***

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.14 - POPULATION AND HOUSING

Would the Project

a.	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Impact #3.4.14a – Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project would provide employment opportunities in Merced during its construction, which may attract people from outside the Merced area. However, these opportunities would be limited in number and would most likely be met from the existing population in the Merced area. The project would also provide for approximately 9 acres of commercial (business park) space that will remain under its original General Plan and zoning designation. As the 9 acres will remain under its original land use designation, project impacts related to the commercial component would not result in unplanned population growth.

According to the 2020 U.S. Census, the population of Merced is 86,333, an increase of approximately 9.8% from its 2010 population of 78,958. The City of Merced has a 2023 estimated 29,138 housing units, an increase from the total housing units in 2020 of 29,083 (U.S. Census Bureau 2023). Of the total housing units in 2023, 19, 367 were single-family detached units (typical houses), approximately 66.5% of the total.

The project would involve the construction of 570 single-family residential units on an approximately 61.7-acre site. Based upon the average of 3.41 persons per household in Merced (U.S. Census Bureau 2023), the project would result in a potential population addition of approximately 1,944 people. The proposed development is currently not

consistent with the Merced General Plan, which designates the project site for business park development. The proposed General Plan Amendment and Zone Change would allow for the development of residential within the project area. The Merced County Regional Housing Element identifies a need for 10,517 additional units for the City of Merced. 2,543 of which should be categorized for very low-income, 1,742 low-income, 1,838 for moderate-income, and 4,394 for above moderate-income. The project would be consistent with the objectives in the Housing Element of the Merced to meet Regional Housing Needs Assessment allocations for additional housing units by providing 570 single-family residential units. As previously discussed in Impact #3.4.11b, the proposed project does not actively conflict with land use policies for residential land use.

As previously noted, the project would result in the development of new single-family residences and would provide additional housing opportunities for the City of Merced population. The proposed project includes a General Plan Amendment and Zone Change that would provide additional housing opportunities for an area previously planned for Business Park and Industrial/Manufacturing. A portion of the project site would remain designated as Business Park and provide for commercial and office opportunities. As the commercial component remains unchanged from its original land use and zoning designation, no unplanned population growth is anticipated. With regard to the residential component, the proposed General Plan Amendment and Zone Change would allow for additional housing opportunities that is compliant with the Merced Multi-Jurisdictional Housing Element. Although population growth would occur in an area currently designated for commercial development, the objectives of the City's RHNA requirements will be met as a result of the project through the addition of 570 residential lots that have been allocated for the City planning area.

The analysis provided in this document indicates that City services are sufficient or will be sufficient to accommodate growth resulting from the project in addition to meeting the City's RHNA requirements. Therefore, although population growth would occur as a result of the project, this growth can be accommodated and would result in a less than significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.14b – Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project site is currently undeveloped and does not propose the demolition or removal of existing people or housing. The project sites will not displace existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the project would have no impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

There would be ***no impact***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.15 - PUBLIC SERVICES				
Would the Project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:				
(i) Fire protection?	☐	☐	☒	☐
(ii) Police protection?	☐	☐	☒	☐
(iii) Schools?	☐	☐	☒	☐
(iv) Parks?	☐	☐	☒	☐
(v) Other public facilities?	☐	☐	☒	☐

Discussion

Impact #3.4.15a(i) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services - Fire Protection?

Fire protection for the project is provided by the City Fire Department (MFD). The City maintains five stations strategically located throughout the City limits with the nearest station located approximately two miles west of the project site. Per the General Plan, the MFD has a goal of maintaining a response time of four to six minutes for the first crew to arrive at a fire or medical emergency within an assigned district (City of Merced 2012).

The General Plan has adopted policies and actions that require emergency access design standards, adequate water supply for fire suppression is available for new residential developments and requiring new development to provide or pay for its fair share of public facility and infrastructure improvements. The Fire Code contains provisions designed to

improve fire safety in structures, including installation of sprinkler systems, alarm systems, and portable fire extinguishers, along with requirements for hydrants and fire flows. The project also would be subject to the City's adopted Building and Electrical Codes with their applicable provisions related to fire safety, including the installation of smoke detectors and sprinkler systems. Entryways would be constructed to City standards, which consider emergency vehicle accessibility. Compliance with these requirements would minimize fire risk to residents and buildings of the proposed project development.

Buildings constructed as part of the project would be required to comply with the 2019 California Fire Code, as amended by the City in Merced Municipal Code Chapter 17.32 New development is required under Merced Municipal Code Chapter 17.62 to pay Public Facility Impact Fees to the City for future construction or improvement of Fire Department facilities, among other capital improvements. The Public Facility Impact Fee for single-family development is $13,102 per dwelling unit (City of Merced 2025). These impact fees will fund needed capital facilities and infrastructure generated by new development over the next 20 years. Capital projects included in the fee calculations are arterial streets, traffic signals, bridges, railroad crossings, fire stations, police facilities, community parks, bikeways, smart technology, and other public facilities (City of Merced 2025). Compliance with the applicable codes and City standards, along with payment of fees, would reduce project impacts on fire protection services to a level that would be less than significant. Therefore, the impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(ii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Police Protection?

The City of Merced Police Department provides law enforcement services to City of Merced, including the project site. Merced is divided into three police districts, each with its own police facility and officers. The service standard used for planning future police facilities is approximately 1.32 sworn officers per 1,000 population. The nearest police station is located approximately 3.3 miles west of the project site (City of Merced 2012).

The project will increase the local population by developing a 570-lot single-family residential development with approximately 9 acres of commercial area. The resulting impacts on police services related to acceptable service ratios, response times, or other performance objectives of police protection services are anticipated to be impacted.

The Police Department anticipates that at least one new police station would be needed to serve the City's population. While the proposed project would not necessarily require new police facilities, new development is required to pay Public Facility Impact Fees to the City, which would in part pay for a new central station that is planned (City of Merced 2021). With payment of Public Service Impact Fees, project impacts related to police protection services would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(iii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Schools?

School services within the majority of the Merced Planning Area are provided by the Merced City School District (elementary and middle schools); Merced Union High School District; Weaver Union School District; and McSwain Union Elementary School District. The nearest school is Pioneer Elementary School located approximately 0.25 miles west of the project site. Tenaya Middle School and Merced High School are approximately 3.5 miles northwest of the project site.

The increased population generated by the proposed project would increase the number of students attending local schools and could result in significant impacts to these facilities by requiring new facilities. The developer will be required to pay the appropriate school impact fees in order to receive building permits. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed "full and complete school facilities mitigation." School districts would utilize the General Plan and codes to establish new school sites and make decisions on school amenities and facility size. The development will be subject to school impact fees to reduce increased impacts on school facilities to less than significant levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(iv) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Parks?

The City has a well-developed network of parks and recreation facilities, with a 2010 inventory of parkland within the City being 328 acres of developed parkland. The City of Merced utilizes five acres per 1,000 population standard.

The proposed project intends to develop a 570-lot single-family residential development which would result in the increased use of existing neighborhood and regional parks as an increase in local population would occur. However, the proposed project would include development of 2.8 acres of open space. The U.S. Census estimates an average household size of 3.41 for the City of Merced (U.S. Census Bureau 2024). Therefore, an estimated 1,938 increase in population size would occur as a result of the project. Pursuant to the City of Merced 2004 Parks and Recreation Master Plan, an additional need of school parks/neighborhood parks, large urban/community parks, special use areas, and linear parks was identified. Neighborhood parks are defined as a combination of playground and park space, designed primarily for non-supervised, non-organized recreation activities generally small (about 3 to 7 acres in size) and serve an area of approximately a one-half mile radius. School parks are park facilities, usually in similar size to neighborhood park facilities that are developed adjacent to or on school grounds. Community parks in general are designed for organized activities and sports, much larger in area and offer more facilities. The optimum size is between 15 and 20 acres and service an area roughly 1 to 2 miles in radius. Large urban parks are designed to service the entire community and provide a wide variety of specialized facilities such as sports fields, indoor recreation areas, and large picnic areas. These parks often exceed 50 acres in size. Special use areas are miscellaneous public recreation areas or land occupied by a specialized facility including community centers, skate parks, community gardens or sites occupied by buildings. Linear parks are defined as open spaces or developed landscape areas that follow linear corridors such as creek corridors, canals, trail corridors, abandoned railroad rights-of-way, canals, and other elongated features.

As noted, the proposed project includes the development of approximately 3.0 acres of open space that will count towards the established parkland to population ratio identified in the General Plan. The amount of park space proposed does not offset the entirety of the approximate population increase associated with the project. Therefore, the proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Furthermore, the project would be required to pay all applicable impact fees related to parks and recreation. Therefore, with the proposal for open space and payment of impact fees related to parks and recreation, impacts of the project related to parks and recreational spaces would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.15a(v) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Other Public Facilities?

See Impact #3.4.15a(i) through (iv) above.

The closest library to the project site is located approximately 3.5 miles northwest of the project site. The nearest healthcare center to the project site is located 3.5 miles northwest. The nearest hospital is located approximately 4.6 miles north of the project site.

As noted in Impact #3.4.14a, the Project does not promote unplanned growth or development. As such, the development of the Project will minimally increase the demand for other public services, such as libraries and health services. However, the increase in demand will not in and of itself require the construction of additional facilities. As such, impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.16 - RECREATION				
Would the Project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

Impact #3.4.16a – Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

As noted above in Impact #3.4.15a(iv), the proposed project intends to develop a 570-lot single-family residential development and the dedication of approximately 4.6 acres of park/open space. Development of the proposed project would require payment of in-lieu fees for parkland dedication to the Recreation and Park District in compliance with Government Code Section 66477 (Quimby Act), which would reduce potential impacts to less than significant levels.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.16b – Would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

See Impact #3.4.16a above.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.17 - TRANSPORTATION					
Would the Project:					
a.	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b.	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☒	☐	☐
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
d.	Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

The analyses in this section are based on a Transportation Impact Study (VRPA Technologies, Inc. 2025b) attached as Appendix G. The Study considered build out of a larger number residential lot than what is currently proposed. Therefore, it can be assumed that the trips estimates resulting from the project would be less than those discussed in this IS/MND.

Impact #3.4.17a – Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Transit

The City of Merced is served by a local public bus system, inter-regional private bus companies, and private taxicabs, as well as rail and air passenger services that are both dealt with under separate headings. "The Bus"-Merced County Transit system includes the City Shuttle plus the former Merced County MARTS and the Los Banos system. "The Bus" operates on 16 fixed routes and also provides demand responsive service. Weekday and Saturday service is provided. Through MCAG, the City continues to contribute its representative portion of funds necessary for the operation of the expanded, regional system. These funds help to maintain the existing system as well as provide for new equipment such as communications gear, bus shelters, and replacement vehicles.

Bicycle/Pedestrian Facilities

The City Transportation and Circulation Element identified the following roadways in vicinity of the project site for existing or future bike land facilities:

- Campus Parkway east of Coffee Street (Existing Class I, Pathway)
- Gerard Avenue (Proposed Class II, Lane)
- Mission Avenue (Proposed Class II, Lane)
- Coffee Street (Existing Class II, Lane)

According to the bikeway design criteria established by Caltrans, these bikeway classifications are defined as follows:

- Class I Bikeways (Bike Paths): Class I bikeways (bike paths) are facilities with exclusive right of way, with cross flows by vehicles minimized. Motor vehicles are prohibited from bike paths, which can be reinforced by signing.
- Class II Bikeways (Bike Lanes): Class III Bikeways (Bike Route) are shared routes and do not require pavement markings. In some instances, a 4-inch white edge stripe separating the traffic lanes from the shoulder can be helpful in providing for safer shared use.
- Class III Bikeways (Bike Lanes): Class III bikeways (bike routes) are intended to provide continuity to the bikeway system. Bike routes are established along through routes not served by Class I, II, or IV bikeways, or to connect discontinuous segments of bikeways (normally bike lanes). Class III facilities are facilities shared with motor vehicles or pedestrians, which are designated by signs or permanent markings.

Roadways

The State of California does not recognize traffic congestion and delay as an environmental impact per CEQA. However, under Goal Area T-1, Policy T-1.8 the City General Plan Circulation Element has designated level of services (LOS) "D" as the minimum acceptable LOS standard. The Transportation Research Board Highway Capacity Manual, 7th Edition, (HCM) defines level of service (LOS) as, "a quantitative stratification of a performance measure or measures representing quality of service. The measures used to determine LOS for transportation system elements are called service measures. The HCM defines six levels of service, ranging from A to F, for each service measure or combination of service measures. LOS A represents the best operating conditions from the traveler's perspective and LOS F the worst."

To assess the impacts that the project may have on the surrounding roadway network, the first step is to determine project trip generation. project trip generation was determined using trip generation rates from the Institute of Transportation Engineers (ITE) Trip

Generation Manual (11th Edition) and the ITE Trip Generation Handbook (3rd Edition). The considerations described above led to the recommended trip generation for weekday AM (7:00-9:00am) and PM (4:00- 6:00pm) peak hours shown in Table 3.4.17-1.

Table 3.4.17-1
Project Trip Generation

Land Use/ITE Land Use Code	Quantity	Daily Trip Ends (ADT)		Weekday AM Peak Hour					Weekday PM Peak Hour				
		Rate	Volume	Rate	In/Out Split	Volume			Rate	In/Out Split	Volume		
						In	Out	Total			In	Out	Total
Single-Family Residential (210)	587 Units	8.75	5,141	0.70	25:75	93	28	373	0.94	63:37	330	195	525
Shopping Plaza (821)	49,550 sq. ft.	67.52	3,346	1.73	62:38	53	33	86	5.19	49:51	126	131	257
Office (710)	49,550 sq. ft.	10.84	630	1.52	88:12	81	11	92	1.44	17:83	16	77	93
			9,117			227	324	551			472	403	875
Internal Vehicle Trips (10%)			912			23	32	55			47	40	88
Passby Trips/Retail Only			1,004			16	10	26			38	39	77
Total External Trip Generation			7,202			188	282	470			387	323	710

Source: (VRPA Technologies, Inc. 2025b)

The Transportation Impact Study (TIS) in consultation with City of Merced staff identified the following intersections for study.

1. Gerard Avenue and Pluim Drive
2. Gerard Avenue and Campus Parkway
3. Mission Avenue and State Route (SR) 99 SB Off Ramp
4. Mission Avenue and SR 99 NB Off Ramp
5. Campus Parkway and Pluim Drive (With Project Scenario Only)
6. Mission Avenue and Pluim Drive (With Project Scenario Only)

The City considers levels of service 'D' or better to be acceptable, while levels of service 'E' and 'F' are considered unacceptable. At unsignalized intersections where a substandard level of service exists, traffic signals would only be recommended if warrants for traffic signals are satisfied. The satisfaction of a traffic signal warrant doesn't, in and of itself, require the installation of a traffic signal. Safety and/or the overall operation of the intersection should be the basis of the installation of a traffic signal. Other improvements, such as the installation of dedicated left/right turning movements, should also be considered for the purpose of alleviating substandard levels of service at an intersection.

The 2030 Merced County General Plan establishes measures of performance for the county roadway systems. The General Plan identifies LOS 'D' during weekday peak hours in urban

area and for rural connectors between urban areas (including freeways) and LOS 'C' for other rural roadways.

With the changes brought about by SB 743, Caltrans no longer uses level of service to determine the need for transportation improvements. Instead, the focus is on providing adequate facilities for pedestrians, bicycles, and transit as well as safety considerations for all transportation modes. Guidance is provided in the Transportation Impact Study Guide dated May 20, 2020, and the Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance dated July 2020. This guidance was used in determining the need for roadway improvements on Caltrans facilities.

The intersection level of service (LOS) analysis for the study intersections depicted in the Table 3.4.17-2 show that all the study intersections currently operate at acceptable levels of service considering the LOS threshold.

Table 3.4.17-2
Intersection Operations

Intersection	Control	Target LOS	Peak Hour	Existing		Opening Year Plus Project		Horizon Year 2046 without Project		Horizon Year 2046 plus Project	
Gerard Avenue / Pluim Drive	One-way Stop Sign (Two-Way Stop w/ Project	D	AM	11.5	B	13.0	B	12.0	B	13.5	B
			PM	9.5	A	10.3	B	10.0	B	11.0	B
Gerard Avenue / Campus Parkway	Signalized	D	AM	13.5	B	13.7	B	15.0	B	15.3	B
			PM	13.1	B	13.8	B	13.8	B	14.2	B
Mission Avenue / SR 99 SB Off-Ramp	Signalized	-	AM	19.1	B	21.1	B	21.7	C	22.4	C
			PM	18.4	B	18.5	B	20.4	C	20.6	C
Mission Avenue / SR 99 BN Off-Ramp	Signalized	-	AM	19.5	B	21.4	C	36.6	D	49.4	D
			PM	19.7	B	21.1	B	35.5	D	49.5	D
Campus Parkway / Pluim Drive (with Project only)	Signalized	D	AM	-	-	25.4	C	-	-	26.5	C
			PM	-	-	26.1	C	-	-	26.2	C
Mission Avenue / Pluim Drive (with Project only)	One-way Stop Sign	D	AM	-	-	9.1	A	-	-	9.3	A
			PM	-	-	9.3	A	-	-	9.5	A

Source: (VRPA Technologies, Inc. 2025b)

The results of the analysis show that all the study intersections currently operate at acceptable levels of service considering the City of Merced LOS criteria.

In addition to the LOS analysis, a queuing analysis was conducted for the TIS. The queuing analysis considered the existing storage pocket lengths and found that study intersections currently support the traffic volumes at existing study intersections. Queuing conditions for left and right-turn lanes at all study intersections are based upon Section 400 of Caltrans' Highway Design Manual. The results of the queuing analysis as provided in the TIS indicate that traffic at the northbound right approach for the Mission Avenue and SR 99 NB Off-Ramp intersection will exceed the existing 425-foot storage pocket during the AM and PM perk hour for the Horizon Year 2046 scenario. Therefore, it is recommended in the TIS that the

northbound right storage pocket at the Mission Avenue and SR 99 NB Off-Ramp intersection be lengthened from 425 feet to 575 feet. To ensure that the recommended improvement is addressed, Mitigation Measure MM TRA-1 will be implemented, and the project proponent will contribute their fair share payment for fees associated with improvements to the impacted intersection. Payment of these equitable share costs would ensure that the project's impacts to the identified intersection would be less than significant.

Construction related traffic is anticipated to be short-term and would not significantly impact existing or planned circulation infrastructure. The proposed operation of the project would result in no significant LOS impacts to the studied intersections as identified in the TIS. To address queuing deficiencies as a result on the project at the Horizon Year 2046 scenario, the TIS recommends that the project proponent pay its equitable share costs percentage for intersection improvements pertaining to the storage pocket length at the northbound right approach at the Mission Avenue and SR 99 NB Off-Ramp intersection. Payment of equitable share costs is provided as Mitigation Measure MM TRA-1. Therefore, the project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities with compliance of MM TRA-1 and would have a less-than-significant impact

MITIGATION MEASURE(S)

TRA-1: The project proponent shall pay its equitable share costs percentages for intersection improvements pertaining to the storage pocket length at the northbound right approach at the Mission Avenue and SR 99 NB Off-Ramp intersection.

Payment amount of the equitable share costs shall be determined by the City of Merced and Caltrans and paid prior to issuance of building permits or at a time determined by the Lead Agency. The equitable share cost percentage shall be 7.7% for AM Peak Hour and 13% for PM Peak Hour.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation implemented.***

Impact #3.4.17b – Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The new CEQA Guidelines Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shift the focus from driver delay to a reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land

uses. Vehicle Miles Traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

VMT analysis was conducted according to MCAG VMT Thresholds and Implementation Guidelines *(VRPA TECHNOLOGIES, INC. 2025A)*. For mixed-use projects, the guidelines recommend analyzing each land use individually while taking credit for internal trip capture. The VMT analysis for each of the project's three land uses (office, shopping plaza, and single-family residential) is described below:

- For the office land use, the project site is located in a VMT-efficient area according to the VMT per Employee Screening Map for Merced County. Therefore, the office land use is screened out of further VMT analysis and has a less than significant VMT impact.

- The shopping plaza land use is considered to be a retail development that is screened out of further VMT analysis due to land use type. Therefore, the shopping plaza land use has a less than significant VMT impact.

- For the single-family residential land use, the project is located in an area that has less than the average VMT per capita but is above the VMT significance threshold of 85% of average VMT/capita or below. However, the project has an internal trip capture of 912 daily trips as compared to 5,141 daily trips generated by the single-family residential land use. After applying credit for internal trip capture, the trip generation of the single-family residential land use would be reduced by 17.7% (921/5,141). Therefore, the resulting VMT per capita for the single-family residential land use is 17.7% or more below average and meets the VMT threshold of at least 15% below average

Since all three components of the project have a less than significant VMT impact, the project as a whole has a less than significant VMT impact and no mitigation measures are needed.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.17c – Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction

The proposed Project may be required to obtain a traffic control permit and implement a traffic control plan (TCP) for construction occurring on City road right-of-way, such as the construction of new access points from Gerard Avenue and Pluim Drive to the proposed

Project site. If required, the TCP would demonstrate appropriate traffic handling during construction activities that could impact the traveling public (e.g., the transport of equipment and materials to the project area); thus, any increased hazards related to traffic and transportation during construction would be minimized. In accordance with existing requirements, the proposed project would be subject to review by City staff to ensure safety standards are met during construction activities. Therefore, the impact related to transportation hazards during construction would be less than significant.

Operation

The project will not include any geometric design features or incompatible uses that would substantially increase hazards. All road improvements would be constructed according to local road standards. Additionally, the proposed project would be subject to review by City staff, which would ensure the project design would comply with all applicable industry roadway design standards. Therefore, the proposed project would not substantially increase hazards due to a design feature or incompatible uses, and the impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.17d – Would the Project result in inadequate emergency access?

The proposed project would be required to comply with all emergency access requirements adopted and set forth in the City Municipal Code. Project site development will be required to comply with applicable emergency access standards from local and State authorities.

As described above, increased project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads; therefore, project-related traffic would not affect emergency access to the project site or any other surrounding locations. The proposed project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons, construction and operation would have a less-than-significant impact on emergency access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.18 - TRIBAL CULTURAL RESOURCES				
Would the Project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☒	☐	☐
Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

The discussion below is based on the Cultural Resources Study and Evaluation completed for the project, attached as Appendix C (Applied EarthWorks, Inc. 2024).

Impact #3.4.18a(i) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is – listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

See the discussion presented in Section 3.4.5 - *Cultural Resources,* Impacts #3.4.5a through 3.4.5c.

As part of the Cultural Resources Study and Evaluation, a list of individuals to be contacted for information regarding tribal cultural resources was supplied by the NAHC and letters were sent on July 30, 2024. These letters were submitted to individuals' part of the Amah Mutsun Tribal Band, the North Fork Rancheria of Mono Indians, the Northern Valley Yokut Ohlone Tribe, the Southern Sierra Miwuk Nation, Tule River Indian Tribe, and the Wuksashi Indian Tribe/Eshom Valley Band. Responses from these individuals indicate that there are no tribal cultural resource concerns within the project area.

On April 28, 2025, pursuant to Public Resources Code §21080.3.1 and Government Code §65300 *et seq*, letters were sent to each of the Native American tribes within the geographic area as identified by the NAHC. The letters included a project description and location maps. To date, no responses have been received from the tribes that were contacted.

Upon any ground-breaking activity, there is the possibility of uncovering an object of cultural value. Mitigation Measures MM CUL-1 through MM CUL-3 must be implemented if any artifacts or human remains are discovered. Therefore, the project would have a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 through MM CUL-3.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

Impact #3.4.18a(ii) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is – a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe?

See discussion for Impacts #3.4.5a through#3.4.5c and Impact #3.4.18a(i) above.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM CUL-1 through MM CUL-3.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant with mitigation incorporated***.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.19 - UTILITIES AND SERVICE SYSTEMS				
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments.	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Impact #3.4.19a – Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Wastewater

Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. The wastewater collection system handles wastewater generated by residential, commercial, and industrial uses in the City. The City Wastewater Treatment

Plant (WWTP), located in the southwest part of the City about two miles south of the Airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry. The City's wastewater treatment facility has a permitted capacity of 10 million gallons per day (mgd), with an average 2008 flow of 8.5 mgd (City of Merced 2012). The City has initiated an expansion project to increase capacity to 12 mgd and upgrade to tertiary treatment with the addition of filtration and ultra-violet disinfection. Future improvements would add another 8 mgd in capacity (in increments of 4 mgd), for a total of 20 mgd. This design capacity can support a population of approximately 150,000. The collection system will also need to be expanded as development occurs. Treated effluent is disposed of in several ways depending on the time of year. Most of the treated effluent (75% average) is discharged to Hartley Slough throughout the year. The remaining treated effluent is delivered to a land application area and the on-site City-owned wetland area south of the WWTP.

City of Merced General Plan Policy P-1.3 and its associated Implementing Actions 1.3.c through 1.3.d would be applicable to the project including new development payment for fair share costs of on-site and off-site public infrastructure and municipal services. Compliance with existing regulations will ensure the resultant level of impact from implementation of project would be maintained at a less than significant level.

Stormwater

The City General Plan has adopted Goal P-5 to provide an adequate storm drainage collection and disposal system. Policy P-5.1 and its associated Implementing Actions require the provision of effective storm drainage facilities for future development and implementation of the City's Storm Water Master Plan and Storm Water Management Plan. Therefore, compliance with the City's Stormwater Master Plan and Storm Water Management Plan will ensure that development of the project would result in less than significant project impacts.

Water

See Impact #3.4.10b.

As discussed, groundwater the City obtains its water from local aquifers through 20 active wells. The City has an estimated service population of approximately 99,100 people. In 2020, approximately 20,076 acre-feet (6,542 million gallons) of water was delivered to an estimated 22,969 water service connections of which approximately 67% of the water use is for residential services. The remainder are for educational, commercial and industrial uses. The city currently utilizes local groundwater as its source of water supply.

Water needed for construction will be obtained from the City, who has indicated sufficient water to supply the project. The current water distribution system is adjacent to the project site. The construction process is estimated to take place in stages during an approximately seven-year period. During this seven-year period, it is assumed that each acre of land will require a total of one year to construct. Construction water demands are estimated to be approximately 225 gpd/acre for the duration of construction or 17.34 acre-feet, which is

equivalent to approximately 5,650,200 gallons (225 gpd/acre x 68.8 total acres to be developed x 365 days per acre). Bottled drinking water will be provided for crews during construction activities. Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, building foundations and project components, the principal use of water would be for compaction and dust control. Smaller quantities would be required for the preparation of the concrete required for foundations and other infrastructure. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with construction of the buildings, internal access roads, and revegetation.

The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 131.8 gallons per year or 404.48 acre-feet per year for the total build out of the project. This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average and 3.5 people per lot as estimated in the City's UWMP) across the entire buildout of 570 lots. The water demand for the 9-acre commercial development is estimated to be 2.16 million gallons per year or 7.71 acre-feet per year (based on a commercial water use of 650 gpd/acre).

As noted in Impact #3.4.10b, the UWMP considered population growth from 2025 to 2040. The project water demand is included in the projected increase in water demand if a fifth dry year of 19,534 AF from 2025 to 25,460 AF 2040 (Table 3.4.10-3). The project long-term operational water demand is 1.58% (404.48 AF/25,460 AF) of the available water supply in the City and therefore a less than significant impact is foreseen. Utilizing data from the UWMP, it was found that the anticipated water supply for the City would be sufficient to accommodate the project (QK 2025).

Electricity

The Pacific Gas and Electric Company (PG&E) provides electricity to the City. The Merced Irrigation District also provides electrical service to some customers in the area. Telephone service is provided by various vendors. Cable television is available from Comcast, and satellite television is available from several sources. Similarly, cellular telephone service can be purchased from several vendors. Existing poles with attached electrical and communication lines are situated along Parsons Avenue along the western boundary of the project site. State-regulated franchise utilities are obligated to extend services to new development sites as necessary. The project will connect to existing PG&E infrastructure. Project impacts are anticipated to be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

Impact #3.4.19b – Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

See Impact #3.4.10b.

Water needed for construction will be obtained from the City of Merced which obtains groundwater from wells located on land within the City. The current water distribution system is adjacent to the project site. The construction process is estimated to take place in stages during an approximately seven-year period. During this seven-year period, it is assumed that each acre of land will require a total of one year to construct. Construction water demands are estimated to be approximately 225 gpd/acre for the duration of construction or 17.34 acre-feet, which is equivalent to approximately 5,650,200 gallons (225 gpd/acre x 68.8 total acres to be developed x 365 days per acre). Bottled drinking water will be provided for crews during construction activities. Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, building foundations and project components, the principal use of water would be for compaction and dust control. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with construction of the buildings, internal access roads, and revegetation.

The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 131.8 million gallons per year or 404.48 acre-feet per year for the total build out of the project. This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average in the 2020 City of Merced Urban Water Management Plan and 3.5 people per lot) across the entire buildout of 570 lots for the project. The water demand for the 9-acre commercial development is estimated to be 2.16 million gallons per year or 7.71 acre-feet per year (based on a commercial water use of 650 gpd/acre).

As found in the prepared WSA, utilizing data from the UWMP, it was found that the anticipated water supply for the City of Merced would be able to accommodate the project.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.19c – Would the Project result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?

See Impact #3.4.19a above.

The project would place additional demand on the City's wastewater collection and treatment system. The City of Merced Wastewater Collection System Master Plan 2022 Update provides an average per capita flow of 65 gallons per day per capita (City of Merced 2023). Based on the estimates, the residential component of the project would result in approximately 118,560 gallons per day (0.12 million gallons per day [mgd]) of wastewater generation. With regard to the commercial component of the project, wastewater generation for Business Park land uses is approximately 1,214 gallons per day per acre. Therefore, the commercial component of the project would result in approximately 10,926 gallons per day (0.01 mgd). The City's wastewater treatment facility currently has capacity of 7.02 mgd on average, and there are plans address in the Wastewater Collection System Master Plan to expand facility capacity by up to 14.21 mgd to meet future build out of the planning area. In consideration of current capacity, the project would result in a 1.85% increase in wastewater. Thus, the City's wastewater treatment facility would have adequate capacity to accommodate wastewater generated by the project.

Pursuant to identified General Plan Goals, Policies, and Implementing Actions related to wastewater, the project will be required to pay fair share costs for of on-site and off-site public infrastructure and municipal services. City will collect those fair share costs to ensure that adequate capacity is available for the project, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.19d – Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

During construction, debris and waste generated, which are not anticipated to contain hazardous materials, would be collected and transported away from the site. Once constructed, the proposed project would produce typical refuse generated by residential, office, and commercial uses. Waste would be placed in covered receptacles or dumpsters and removed on a regular basis for disposal at a Class III landfill by the certified waste-handling contractor that services the area. Landfills are maintained by the Merced County Regional Waste Authority, with the closest landfill to the project site being the Highway 59 Landfill.

The Highway 59 Landfill has 28 million cubic yards of remaining capacity (CalRecycle 2025) and, thus, can accommodate the proposed project's operational solid waste generation. Impacts from project construction would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.19e – Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

See discussion for Impact #3.4.19d.

The proposed project would be required to provide solid waste and recycling services for residents pursuant to the California Solid Waste Reuse and Recycling Access Act of 1991. This service will be provided by American Refuse. Furthermore, the proposed project would be required to comply with all federal, state, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the proposed project would result in less than significant impacts.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.20 - WILDFIRE				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

Impact #3.4.20a – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

See also Impact #3.4.9f regarding emergency response.

Cal Fire's Fire and Resource Assessment Program identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones apply to areas designated as State Responsibility Areas – areas in which the State has primary firefighting responsibility. According to CAL FIRE, the project site is located within an LRA Unzoned designated area (Cal Fire 2007). Given this designation, the project site is

outside of areas identified by CAL FIRE as having substantial or very high wildfire risk. As noted previously, the project will adhere to the standards set forth in the City of Merced Municipal Codes. The project would also comply with the appropriate local and State requirements regarding emergency response plans and access. The proposed project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities.

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant.*

Impact #3.4.20b – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentration from a wildfire or the uncontrolled spread of a wildfire?

The project site is not located in or near a State Responsibility Area and the Project will implement State and local fire code requirements. As such, the project would not exacerbate the risk of exposure of project occupants to wildfire and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant*.

Impact #3.4.20c – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

See Impacts #3.4.9a and g, #3.4.20a and b above.

The residential portion of the project would be accessed via future Pluim Drive to the west, East Mission Avenue to the south, and East Gerard Avenue to the north. The commercial

areas have frontage along future Pluim Drive and Campus Parkway. All road improvements would be completed in accordance with the applicable Public Works standards and specifications. Additionally, the project would extend service laterals for potable water and other utilities from existing lines. Furthermore, the project would be required to be consistent with the California Fire Code and City of Merced Fire Code. Therefore, the project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment, and impacts would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant***.

Impact #3.4.20d – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

See Impacts # 3.4.9a and g, #3.4.20a, b, and c above.

The project is not located near State Responsibility Areas or lands classified as very high fire hazard severity zones. The City and the project site are topographically flat land. There are no slopes on or near the property, and the project would not expose the people or structures to significant risks from downslope or downstream flooding or landslides due to a result of runoff, post-fire instability, or drainage changes.

Therefore, the project would have a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

Impacts would be ***less than significant.***

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.21 - MANDATORY FINDINGS OF SIGNIFICANCE					
a.	Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	☐	☒	☐	☐
c.	Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

Impact #3.4.21a – Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS/MND, the proposed project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. With implementation of the mitigation measures recommended in this

document, the proposed project would not have the potential to degrade the quality of the environment, significantly impact biological resources, or eliminate important examples of the major periods of California's history or prehistory. Therefore, with the following mitigation measures, the project would have a less-than-significant impact.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM BIO-1 through MM BIO-6, MM CUL-1 through MM CUL-3, and MM GEO-2.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*

Impact #3.4.21b - Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)?

As described in the impact analyses in Sections 3.4.1 through 3.4.20 of this IS/MND, any potentially significant impacts of the proposed project would be reduced to a less-than-significant level following the incorporation of the mitigation measures listed. The proposed project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region. With mitigation, the proposed project would not have impacts that are individually limited but cumulatively considerable. Therefore, the project would have a less-than-cumulatively-considerable impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM AIR-1, MM BIO-1 and MM BIO-6, MM CUL-1 through MM CUL-3, MM GEO-1 through MM GEO-2, MM NSE-1 through MM NSE-3, MM NSE-4, and MM TRA-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated.*

Impact #3.4.21c - Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

All of the project's impacts, both direct and indirect that are attributable to the project were identified and mitigated. The project mitigation measures will substantially reduce or eliminate the impacts of the project. Therefore, the proposed project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed project are identified as having no impact, less than significant impact, or less than significant impact with mitigation.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures MM AIR-1, MM BIO-1 and MM BIO-6, MM CUL-1 through MM CUL-3, MM GEO-1 through MM GEO-2, MM NSE-1 through MM NSE-3, MM NSE-3, and MM TRA-1.

LEVEL OF SIGNIFICANCE

Impacts would be *less than significant with mitigation incorporated*.

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SECTION 6 - MITIGATION MONITORING AND REPORTING PROGRAM

APPENDIX A
AIR QUALITY AND GREENHOUSE GAS IMPACT ASSESSMENT

Merced Gateway Residential/Commercial Development

Air Quality & Greenhouse Gas Impact Assessment
January 2025

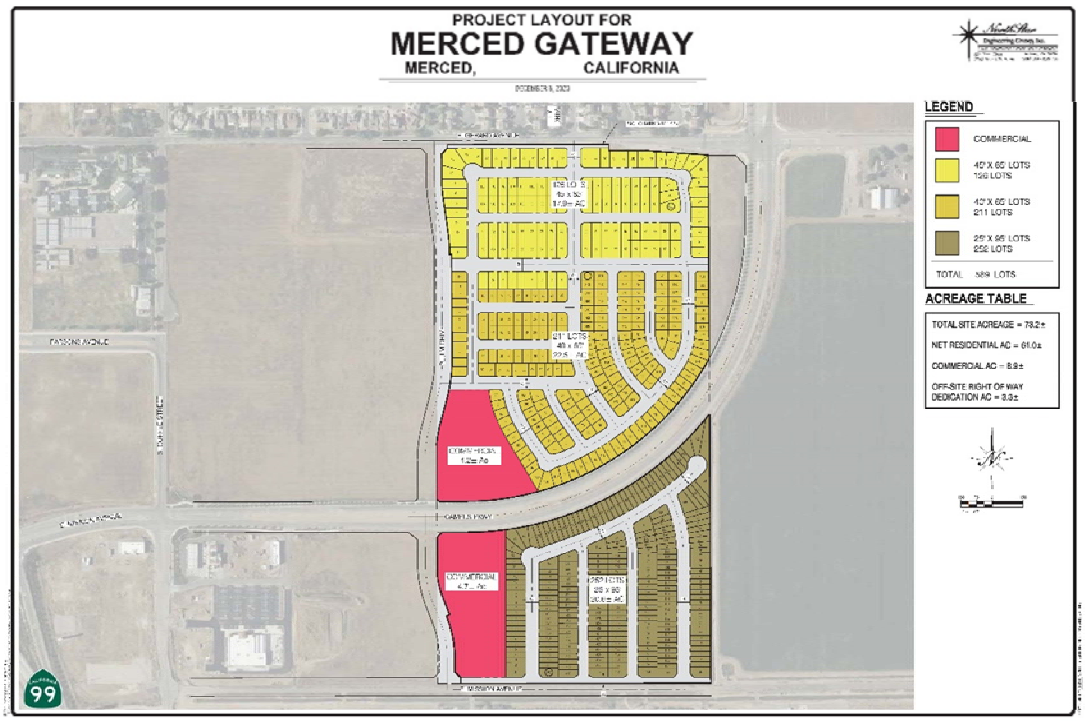

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Table of Contents

Section	Description	Page
1.0	Introduction	1
1.1	Description of the Region/Project	1
1.2	Regulatory	1
1.2.1	Federal Agencies	1
1.2.2	Federal Regulations	5
1.2.3	State Agencies	6
1.2.4	State Regulations	11
1.2.5	Regional Agencies	14
1.2.6	Regional Regulations	15
1.2.7	Local Plans	17
2.0	Environmental Setting	18
2.1	Geographical Locations	18
2.2	Topographic Conditions	18
2.3	Climate Conditions	18
2.4	Anthropogenic (Man-made) Sources	20
2.4.1	Motor Vehicles	21
2.4.2	Agricultural and Other Miscellaneous	22
2.4.3	Industrial Plants	22
2.5	San Joaquin Valley Air Basin Monitoring	22
2.6	Air Quality Standards	24
2.6.1	Ozone (1-hour and 8-hour)	25
2.6.2	Suspended PM (PM10 and PM2.5)	27
2.6.3	Carbon Monoxide (CO)	28
2.6.4	Nitrogen Dioxide (NO2)	29
2.6.5	Sulfur Dioxide (SO2)	31
2.6.6	Lead (Pb)	31
2.6.7	Toxic Air Contaminants (TAC)	32
2.6.8	Odors	34
2.6.9	Naturally Occurring Asbestos (NOA)	35
2.6.10	Greenhouse Gas Emissions	35

3.0 Air Quality Impacts 37
3.1 Methodology 37
3.1.1 CalEEMod 37
3.2 Short-Term Impacts 38
3.3 Long Term Emissions 39
3.3.1 Localized Operational Emissions Ozone/Particulate Matter 39
3.3.2 Localized Operational Emissions 39

4.0 Impact Determinations and Recommended Mitigation 46
4.1 Air Quality 46
4.1.1 Conflict with or obstruct implementation of the applicable air quality plan 46
4.1.2 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard 47
4.1.3 Expose sensitive receptors to substantial pollutant concentrations 47
4.1.4 Result in other emissions such as those leading to odors adversely affecting a substantial number of people 50
4.2 Greenhouse Gas Emissions 51
4.2.1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment 51
4.2.2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases 52

Appendices

Appendix A – CalEEMod Worksheets
Appendix B – AERMOD Worksheets (Construction)

List of Tables

1	Ambient Air Quality Standards	9
2	Maximum Pollutant Levels at Merced's South Coffee Avenue Monitoring Station	23
3	Merced County Attainment Status	24
4	Recommendations on Siting New Sensitive Land Uses Such As Residences, Schools, Daycare Centers, Playgrounds, or Medical Facilities	33
5	Screening Levels for Potential Odor Sources	35
6	SJVAPCD Air Quality Thresholds of Significance	37
7	Project Construction Emissions (tons/year)	39
8	Project Operational Emissions (tons/year)	39
9	Health Risks from Project Construction	42
10	2005/2020 Operational Green House Gas Emissions	45
11	Project Operational Greenhouse Gas Emissions	45
12	Health Risks from Project Construction With Mitigation	49

List of Figures

1	Regional Location	3
2	Project Location	4
3	San Joaquin Valley Air Basin	8

1.0 Introduction

1.1 Description of the Region/Project

The proposed project is the construction of 587 single family residential units on 64.3 acres of land and 8.9 acres of local commercial in the City of Merced.

This Air Quality & Greenhouse Gas Impact Assessment has been prepared for the purpose of identifying potential project-specific or site-specific air quality impacts that may result from the Project. Figures 1 and 2 show the location of the Project along with major roadways and highways.

The City of Merced is located in the San Joaquin Valley Air Basin (SJVAB). The surrounding topography includes foothills and mountains to the east and west. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Merced is classified as Mediterranean, with moist cool winters and dry warm summers.

1.2 Regulatory

Air quality within the Project area is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policymaking, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the City of Merced and Merced County are discussed below along with their individual responsibilities.

1.2.1 *Federal Agencies*

- ✓ **U.S. Environmental Protection Agency (EPA)**

  The Federal Clean Air Bill was first adopted in 1967 and periodically amended since then, established federal ambient air quality standards. A 1987 amendment to the Bill set a deadline for the attainment of these standards. That deadline has passed. The other Clean Air Act (CAA) Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the 1990 amendments.

  The CAA and the national ambient air quality standards identify levels of air quality for six "criteria" pollutants, which are considered the maximum levels of ambient air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare.

The six criteria pollutants include ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, particulate matter, and lead.

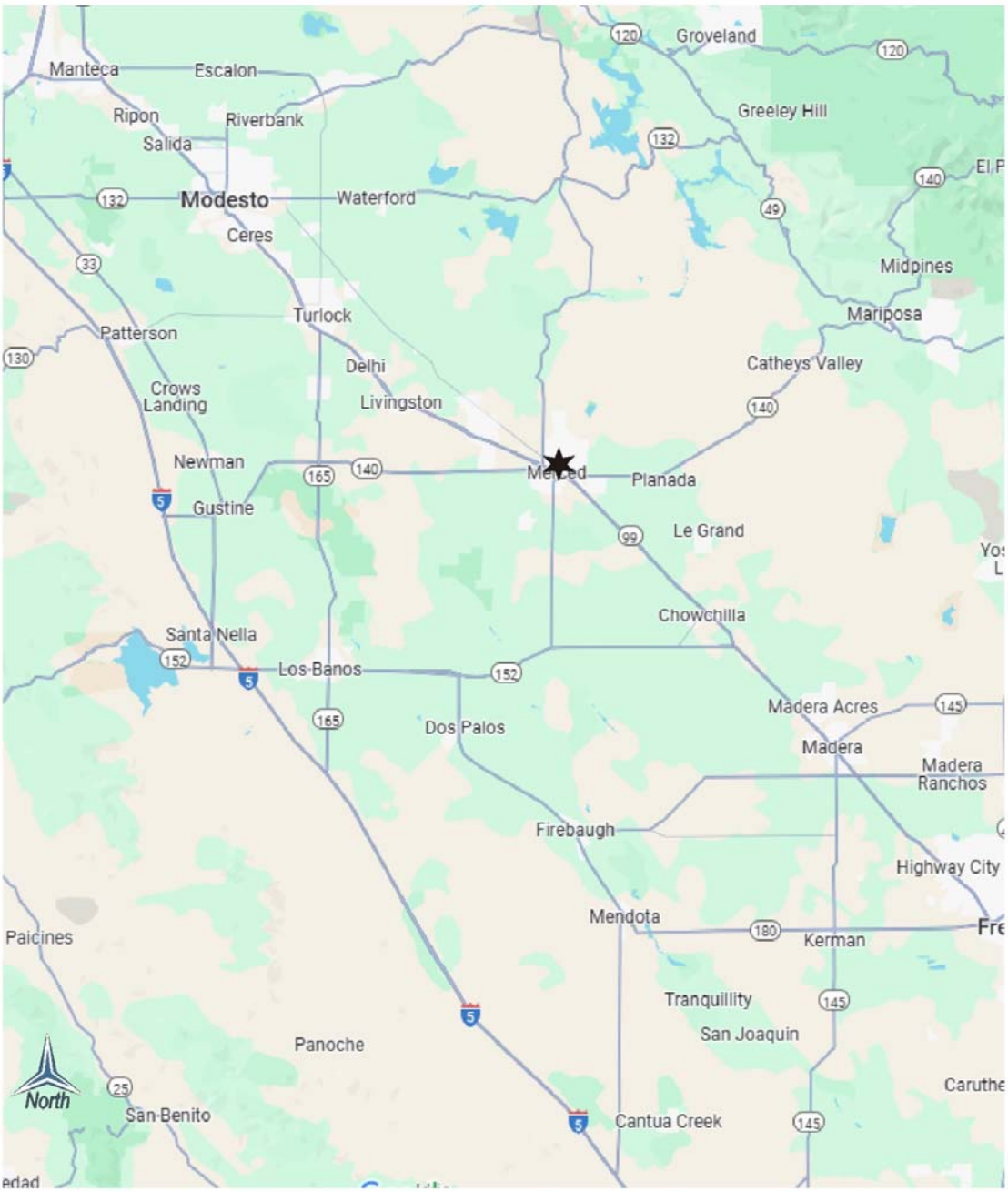
CAA Section 176(c) (42 U.S.C. 7506(c)) and EPA transportation conformity regulations (40 CFR 93 Subpart A) require that each new RTP and Transportation Improvement Program (TIP) be demonstrated to conform to the State Implementation Plan (SIP) before the RTP and TIP are approved by the Metropolitan planning organization (MPO) or accepted by the U.S. Department of Transportation (DOT). The conformity analysis is a federal requirement designed to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). However, because the State Implementation Plan (SIP) for particulate matter 10 microns or less in diameter (PM10), particulate matter 2.5 microns or less in diameter (PM2.5), and Ozone address attainment of both the State and federal standards, for these pollutants, demonstrating conformity to the federal standards is also an indication of progress toward attainment of the State standards. Compliance with the State air quality standards is provided on the pages following this federal conformity discussion.

The EPA approved San Joaquin Valley reclassification of the ozone (8-hour) designation to extreme nonattainment in the Federal Register on May 5, 2010, even though the San Joaquin Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard. In accordance with the CAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. In the Federal Register on October 26, 2015, the EPA revised the primary and secondary standard to 0.070 parts per million (ppm) to provide increased public health protection against health effects associated with long- and short-term exposures. The previous ozone standard was set in 2010 at 0.075 ppm.

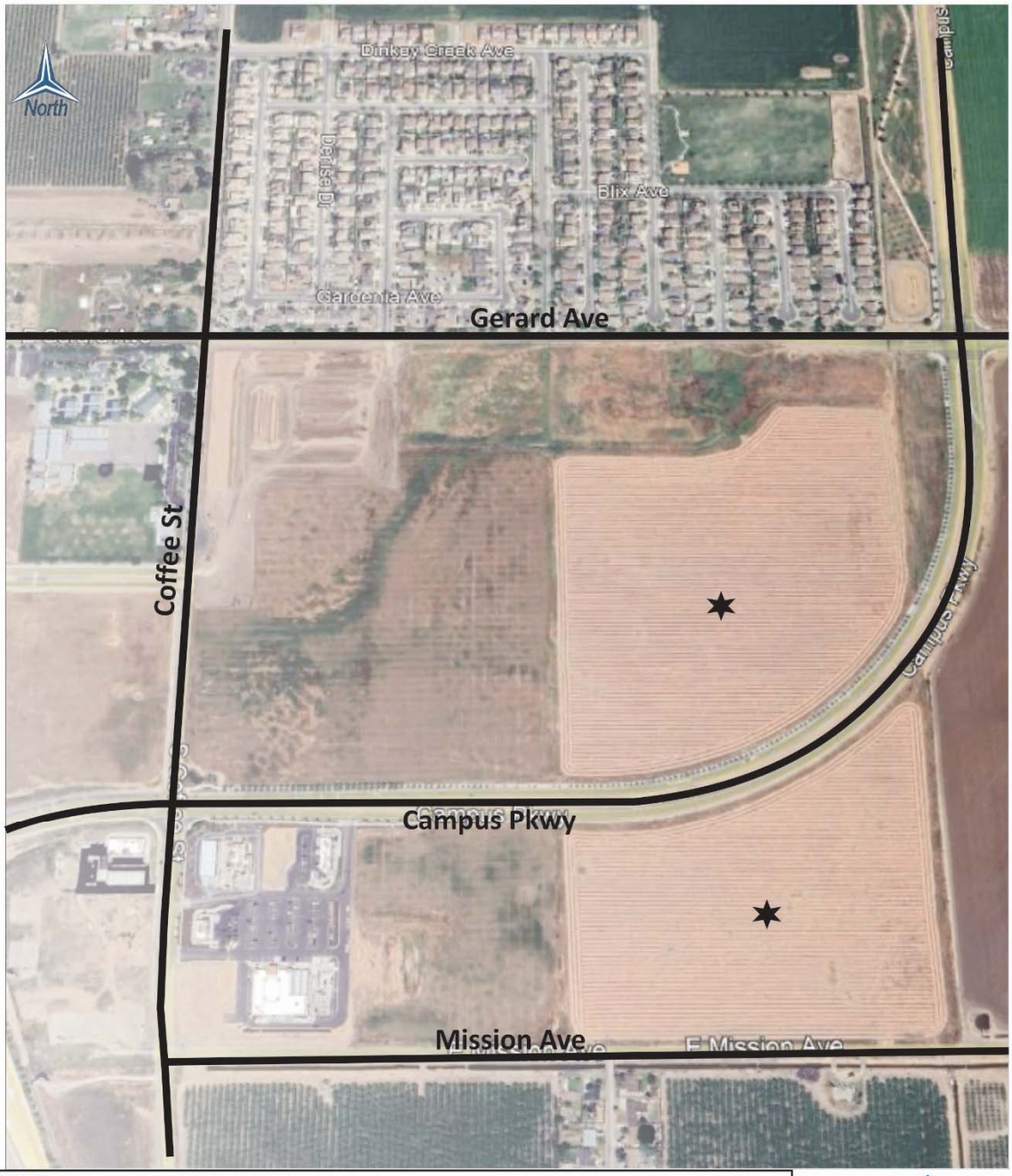
Merced County is located in a nonattainment area for the 8-hour ozone standard, PM2.5 standard, and has a maintenance plan for PM10 standard.

Merced Gateway Residential/Commercial Development **Figure 1**

Regional Location



Merced Gateway Residential/Commercial Development **Figure 2**
Project Location



1.2.2 *Federal Regulations*

✓ **National Environmental Policy Act (NEPA)**

NEPA provides general information on the effects of federally funded projects. The Act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal funds. The regulations address impacts on land uses and conflicts with state, regional, or local plans and policies, among others. They also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions and to restore and enhance environmental quality as much as possible.

✓ **State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)**

To ensure compliance with the NAAQS, EPA requires states to adopt SIP aimed at improving air quality in areas of nonattainment or a Maintenance Plan aimed at maintaining air quality in areas that have attained a given standard. New and previously submitted plans, programs, district rules, state regulations, and federal controls are included in the SIPs. Amendments made in 1990 to the federal CAA established deadlines for attainment based on an area's current air pollution levels. States must enact additional regulatory programs for nonattainment areas in order to adhere with the CAA Section 172. In California, the SIPs must adhere to both the NAAQS and the California Ambient Air Quality Standards (CAAQS).

To ensure that State and federal air quality regulations are being met, Air Quality Management Plans (AQMPs) are required. AQMPs present scientific information and use analytical tools to identify a pathway towards attainment of NAAQS and CAAQS. The San Joaquin Valley Air Pollution Control District (SJVAPCD) develops the AQMPs for the region where the Merced County Association of Governments (MCAG) operates. The regional air districts begin the SIP process by submitting their AQMPs to the California Air Resources Board (CARB). CARB is responsible for revising the SIP and submitting it to EPA for approval. EPA then acts on the SIP in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations Title 40, Chapter 1, Part 52, Subpart 7, Section 52.220.

✓ **Transportation Control Measures**

One particular aspect of the SIP development process is the assessment of available transportation control measures (TCMs) as a part of making progress towards clean air goals. TCMs are defined in Section 108(f)(1) of the CAA and are strategies designed to reduce vehicle miles traveled, vehicle idling, and associated air pollution. These goals are generally achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

✓ **Energy Policy Act of 1992 (EPAct)**

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of alternative fueled vehicles (AFVs). States are also required by the act to consider a variety of incentive programs to help promote AFVs.

1.2.3 *State Agencies*

✓ **California Air Resources Board (CARB)**

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing its own air quality legislation called the California Clean Air Act (CCAA), adopted in 1988. CARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory.

CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Whereas CARB has primary responsibility and produces a major part of the SIP for pollution sources that are statewide in scope, it relies on the local air districts to provide additional strategies for sources under their jurisdiction. CARB combines its data with all local district data and submits the completed SIP to the EPA. The SIP consists of the emissions standards for vehicular sources and consumer products set by CARB, and attainment plans adopted by the Air Pollution Control Districts (APCDs) and Air Quality Management District's (AQMDs) and approved by CARB.

States may establish their own standards, provided the State standards are at least as stringent as the NAAQS. California has established California Ambient Air Quality Standards (CAAQS) pursuant to California Health and Safety Code (CH&SC) [§39606(b)] and its predecessor statutes.

The CH&SC [§39608] requires CARB to "identify" and "classify" each air basin in the State on a pollutant-by-pollutant basis. Subsequently, CARB designated areas in California as nonattainment based on violations of the CAAQSs. Designations and classifications specific to the SJVAB can be found in the next section of this document. Areas in the State were also classified based on severity of air pollution problems. For each nonattainment class, the CCAA specifies air quality management strategies that must be adopted. For all nonattainment

categories, attainment plans are required to demonstrate a five percent-per-year reduction in nonattainment air pollutants or their precursors, averaged every consecutive three-year period, unless an approved alternative measure of progress is developed. In addition, air districts in violation of CAAQS are required to prepare an Air Quality Attainment Plan (AQAP) that lays out a program to attain and maintain the CCAA mandates.

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Merced County Association of Governments (MCAG) region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. MCAG's 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2022, projects that the Merced County region would achieve the prescribed emissions targets.

Other CARB duties include monitoring air quality. CARB has established and maintains, in conjunction with local APCDs and AQMDs, a network of sampling stations (called the State and Local Air Monitoring [SLAMS] network), which monitor the present pollutant levels in the ambient air.

Merced County is in the CARB-designated, SJVAB. A map of the SJVAB is provided in Figure 3. In addition to Merced County, the SJVAB includes Fresno, Kings, Kern, Madera, San Joaquin, Stanislaus, and Tulare counties. Federal and State standards for criteria pollutants are provided in Table 1.

Merced Gateway Residential/Commercial Development **Figure 3**
San Joaquin Valley Air Basin

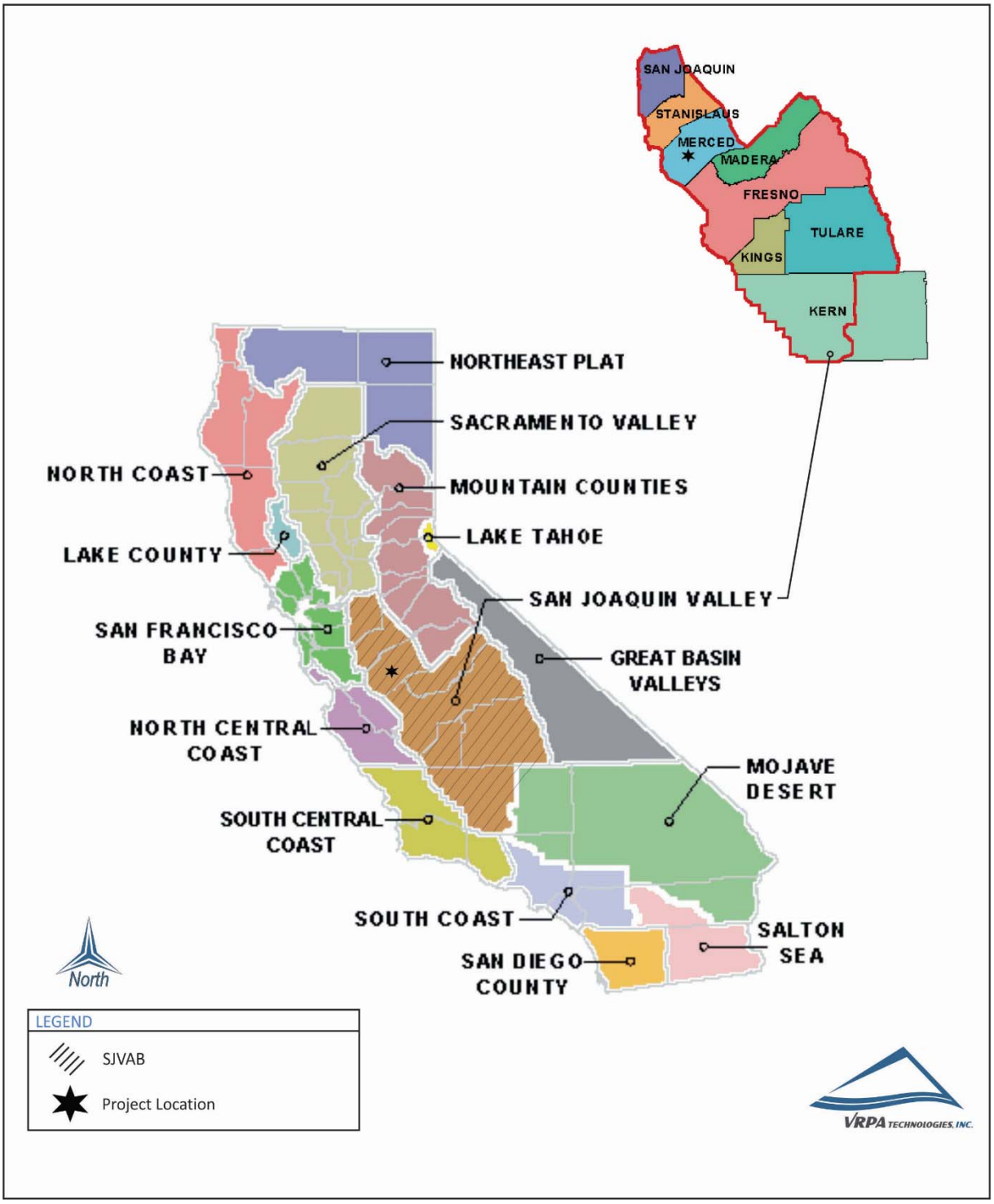


Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3) [8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10) [9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		--		
Fine Particulate Matter (PM2.5) [9]	24 Hour	--	--	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	--	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	
Nitrogen Dioxide (NO_2) [10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2) [11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for cetain areas) [11]	--	
	Annual Arithmetic Mean	--		0.030 ppm (for cetain areas) [11]	--	
Lead [12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3 (for certain areas) [11]	Same as Primary Standard	
	Rolling 3-Month Average	--		0.15 µg/m^3		
Visibility Reducing Particles [14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

Footnotes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

1.2.4 *State Regulations*

✓ **CARB Mobile-Source Regulation**

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, CARB's motor vehicle standards specify the allowable grams of pollutant per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved.

✓ **California Clean Air Act**

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CCAA establishes more stringent ambient air quality standards than those included in the Federal CAA. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the CH&SC [§39606(b)], which are similar to the federal standards. The SJVAPCD is one of 35 AQMDs that have prepared air quality management plans to accomplish a five percent (5%) annual reduction in emissions documenting progress toward the State ambient air quality standards.

✓ **Tanner Air Toxics Act**

California regulates Toxic Air Contaminants (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted EPA's list of Hazardous Air Pollutants (HAPs) as TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

These rules and standards provide for:

- More stringent emission standards for some new urban bus engines, beginning with 2002 model year engines.
- Zero-emission bus demonstration and purchase requirements applicable to transit agencies
- Reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

✓ **AB 1493 (Pavley)**

AB 1493 (Pavley) enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB would apply to 2009 and later model year vehicles. CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicles by an estimated 18 percent in 2020 and by 27 percent in 2030 [Association of Environmental Professionals (AEP) 2007]. In 2005, the CARB requested a waiver from U.S. EPA to enforce the regulation, as required under the CAA. Despite the fact that no waiver had ever been denied over a 40-year period, the then Administrator of the EPA sent Governor Schwarzenegger a letter in December 2007, indicating he had denied the waiver. On March 6, 2008, the waiver denial was formally issued in the Federal Register. Governor Schwarzenegger and several other states immediately filed suit against the federal government to reverse that decision. On January 21, 2009, CARB requested that EPA reconsider denial of the waiver. EPA scheduled a re-hearing on March 5, 2009. On June 30, 2009, EPA granted a waiver of CAA preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year.

✓ **Assembly Bill 32 (California Global Warming Solutions Act of 2006)**

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in greenhouse gas (GHG) emissions and establishes a cap on statewide GHG emissions. AB 32 has achieved the goal of reducing statewide GHG emissions to 1990 levels by 2020. Now, the goal under AB 32 is to further reduce GHG emissions to 40% below 1990 levels by 2030. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationery sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on

instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2030 would represent an approximate 40 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions.

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan adopted in December of 2008. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit.

✓ **Senate Bill 375**

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Merced County Association of Governments, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2018.MCAG's 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2022, projects that the Merced County region would achieve the prescribed emissions targets.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

✓ **Executive Order B-30-15**

Executive Order B-30-15, which was signed by Governor Brown in 2016, establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

✓ **California Global Warming Solutions Act of 2006: emissions limit, or SB 32**

SB 32 is a California Senate bill expanding upon AB 32 to reduce greenhouse gas (GHG) emissions. SB 32 was signed into law on September 8, 2016, by Governor Brown. SB 32 sets into law the mandated reduction target in GHG emissions as written into Executive Order B-30-15. SB 32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. Greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. The California Air Resources Board (CARB) is responsible for ensuring that California meets this goal. The provisions of SB 32 were added to Section 38566 of the Health and Safety Code subsequent to the bill's approval. The bill went into effect January 1, 2017. SB 32 builds onto Assembly Bill (AB) 32 written by Senator Fran Pavley and Assembly Speaker Fabian Nunez passed into law on September 27, 2006. AB 32 required California to reduce greenhouse gas emissions to 1990 levels by 2020 and SB 32 continues that timeline to reach the targets set in Executive Order B-30-15. SB 32 provides another intermediate target between the 2020 and 2050 targets set in Executive Order S-3-05.

1.2.5 *Regional Agencies*

✓ **San Joaquin Valley Air Pollution Control District**

The SJVAPCD is the agency responsible for monitoring and regulating air pollutant emissions from stationery, area, and indirect sources within Merced County and throughout the SJVAB. The district also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. CARB is the agency with the legal responsibility for regulating mobile source emissions. The district is precluded from such activities under State law.

The district was formed in mid-1991 and prepared and adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), dated January 30, 1992, in response to the requirements of the State CCAA. The CCAA requires each non-attainment district to reduce pertinent air contaminants by at least five percent (5%) per year until new, more stringent, 1988 State air quality standards are met.

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the FCAA and CCAA.

The SJVAPCD has prepared the following State Implementation Plans to address ozone, PM-10 and PM2.5 that currently apply to non-attainment areas:

- The 2016 Ozone Plan (2008 standard) was adopted by SJVAPCD on June 16, 2016, and subsequently adopted by ARB on July 21, 2016.

- The 2013 1-Hour Ozone Plan (revoked 1997 standard) was adopted by the SJVAPCD on September 19, 2013. EPA withdrew its approval of the plan due to litigation. The district plans to submit a "redesignation substitute" to EPA to maintain its attainment status for this revoked ozone standard.
- The 2007 PM-10 Maintenance Plan (as revised in 2015) was approved by EPA on July 8, 2016 (effective September 30, 2016).
- The 2012 PM2.5 Plan (as revised in 2015) was approved by EPA on August 16, 2016 (effective September 30, 2016).

The SJVAPCD Plans identified above represent SJVAPCD's plan to achieve both state and federal air quality standards. The regulations and incentives contained in these documents must be legally enforceable and permanent. These plans break emissions reductions and compliance into different emissions source categories.

The SJVAPCD also prepared the *Guide for Assessing and Mitigation Air Quality Impacts* (GAMAQI), dated March 19, 2015. The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

1.2.6 *Regional Regulations*

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that will apply to the Project.

✓ **Regulation VIII – Fugitive PM10 Prohibitions**

Regulation VIII is comprised of District Rules 8011 through 8081, which are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc. The proposed Project will be required to comply with this regulation. Regulation VIII control measures are provided below:

1. *All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.*
2. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*

3. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.*
4. *When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.*
5. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
6. *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
7. *Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.*

✓ **Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities**

District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project or residential projects which include 10 or more acres of disturbed surface area. The proposed Project will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.

✓ **Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations**

If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

✓ **Rule 9510 – Indirect Source Review (ISR)**

The purpose of this rule is to fulfill the district's emission reduction commitments in the PM10 and Ozone Attainment Plans, achieve emission reductions from construction activities, and to provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures. The rule is expected to reduce nitrogen oxides and particulates throughout the San Joaquin Valley by more than 10 tons per day.

1.2.7 *Local Plans*

✓ **City of Merced General Plan**

California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development"— the document that serves as the foundation for all land use decisions. The City of Merced General Plan includes various elements, including air quality and greenhouse gases, that address local concerns and provides goals and policies to achieve its development goals.

✓ **Merced County General Plan**

California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development"— the document that serves as the foundation for all land use decisions. The 2030 Merced County General Plan includes various elements, including air quality and greenhouse gases, that address local concerns and provides goals and policies to achieve its development goals.

2.0 Environmental Setting

This section describes existing air quality within the San Joaquin Valley Air Basin and in Merced County, including the identification of air pollutant standards, meteorological and topological conditions affecting air quality, and current air quality conditions. Air quality is described in relation to ambient air quality standards for criteria pollutants such as, ozone, carbon monoxide, and particulate matter. Air quality can be directly affected by the type and density of land use change and population growth in urban and rural areas.

2.1 Geographical Location

The SJVAB is comprised of eight counties: Merced, Fresno, Kern, Kings, Madera, San Joaquin, Stanislaus, and Tulare. Encompassing 24,840 square miles, the San Joaquin Valley is the second largest air basin in California. Cumulatively, counties within the Air Basin represent approximately 16 percent of the State's geographic area. The Air Basin is bordered by the Sierra Nevada Mountains on the east (8,000 to 14,492 feet in elevation), the Coastal Range on the west (4,500 feet in elevation), and the Tehachapi Mountains on the south (9,000 feet elevation). The San Joaquin Valley is open to the north extending to the Sacramento Valley Air Basin.

2.2 Topographic Conditions

Merced County is located within the San Joaquin Valley Air Basin [as determined by the California Air Resources Board (CARB)]. Air basins are geographic areas sharing a common "air shed." A description of the Air Basin in the County, as designated by CARB, is provided in the paragraph below. Air pollution is directly related to the region's topographic features, which impact air movement within the Basin.

Wind patterns within the SJVAB result from marine air that generally flows into the Basin from the San Joaquin River Delta. The Coastal Range hinders wind access into the Valley from the west, the Tehachapi's prevent southerly passage of airflow, and the high Sierra Nevada Mountain Range provides a significant barrier to the east. These topographic features result in weak airflow that becomes restricted vertically by high barometric pressure over the Valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500-3,000 feet).

2.3 Climate Conditions

Merced is located in one of the most polluted air basins in the country. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Merced is characterized by warm, dry summers and cool winters with significant Tule fog.

Ozone, classified as a "regional" pollutant, often afflicts areas downwind of the original source of precursor emissions. Ozone can be easily transported by wind from a source area. Peak ozone levels tend to be higher in the southern portion of the Valley, as the prevailing summer winds sweep precursors downwind of northern source areas before concentrations peak. The separate designations reflect the fact that ozone precursor transport depends on daily meteorological conditions.

Other primary pollutants, carbon monoxide (CO), for example, may form high concentrations when wind speed is low. During the winter, Merced experiences cold temperatures and calm conditions that increase the likelihood of a climate conducive to high CO concentrations.

Precipitation and fog tend to reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog block the required radiation. CO is slightly water-soluble, so precipitation and fog tends to "reduce" CO concentrations in the atmosphere. PM10 is somewhat "washed" from the atmosphere with precipitation. Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high-pressure belt located off the Pacific coast. In the winter, this high- pressure system moves southward, allowing Pacific storms to move through the San Joaquin Valley. These storms bring in moist, maritime air that produces considerable precipitation on the western, upslope side of the Coast Ranges. Significant precipitation also occurs on the western side of the Sierra Nevada. On the valley floor, however, there is some down slope flow from the Coast Ranges and the resultant evaporation of moisture from associated warming results in a minimum of precipitation. Nevertheless, the majority of the precipitation falling in the San Joaquin Valley is produced by those storms during the winter. Precipitation during the summer months is in the form of convective rain showers and is rare. It is usually associated with an influx of moisture into the San Joaquin Valley through the San Francisco area during an anomalous flow pattern in the lower layers of the atmosphere. Although the hourly rates of precipitation from these storms may be high, their rarity keeps monthly totals low.

Precipitation on the San Joaquin Valley floor and in the Sierra Nevada decreases from north to south. Stockton in the north receives about 20 inches of precipitation per year, Merced in the center, receives about 10 inches per year, and Bakersfield at the southern end of the valley receives less than 6 inches per year. This is primarily because the Pacific storm track often passes through the northern part of the state while the southern part of the state remains protected by the Pacific High. Precipitation in the San Joaquin Valley Air Basin (SJVAB) is confined primarily to the winter months with some also occurring in late summer and fall. Average annual rainfall for the entire San Joaquin Valley is approximately 5 to 16 inches. Snowstorms, hailstorms, and ice storms occur infrequently in the San Joaquin Valley and severe occurrences of any of these are very rare.

The winds and unstable air conditions experienced during the passage of storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong

low-level temperature inversions and very stable air conditions. This situation leads to the San Joaquin Valley's famous Tule Fogs. The formation of natural fog is caused by local cooling of the atmosphere until it is saturated (dew point temperature). This type of fog, known as radiation fog, is more likely to occur inland. Cooling may also be accomplished by heat radiation losses or by horizontal movement of a mass of air over a colder surface. This second type of fog, known as advection fog, generally occurs along the coast.

Conditions favorable to fog formation are also conditions favorable to high concentrations of CO and PM10. Ozone levels are low during these periods because of the lack of sunlight to drive the photochemical reaction. Maximum CO concentrations tend to occur on clear, cold nights when a strong surface inversion is present and large numbers of fireplaces are in use. A secondary peak in CO concentrations occurs during morning commute hours when a large number of motorists are on the road and the surface inversion has not yet broken.

The water droplets in fog, however, can act as a sink for CO and nitrogen oxides (NOx), lowering pollutant concentrations. At the same time, fog could help in the formation of secondary particulates such as ammonium sulfate. These secondary particulates are believed to be a significant contributor to winter season violations of the PM10 and PM2.5 standards.

2.4 Anthropogenic (Man-made) Sources

In addition to climatic conditions (wind, lack of rain, etc.), air pollution can be caused by anthropogenic or man-made sources. Air pollution in the SJVAB can be directly attributed to human activities, which cause air pollutant emissions. Human causes of air pollution in the Valley consist of population growth, urbanization (gas-fired appliances, residential wood heaters, etc.), mobile sources (i.e., cars, trucks, airplanes, trains, etc.), oil production, agriculture, and other socioeconomic activities. The most significant factors, which are accelerating the decline of air quality in the SJVAB, are the Valley's rapid population growth and its associated increases in traffic, urbanization, and industrial activity.

Carbon monoxide emissions overwhelmingly come from mobile sources in the San Joaquin Valley; on-road vehicles contributed 38 percent, while other mobile vehicles, such as trains, planes, and off-road vehicles, contribute another 20 percent in 2021 according to emission projections from the CARB. Motor vehicles account for significant portions of regional gaseous and particulate emissions. Local large employers such as industrial plants can also generate substantial regional gaseous and particulate emissions. In addition, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.).

Ozone is the result of a photochemical reaction between Oxides of nitrogen (NOx) and Reactive Organic Gases (ROG). Mobile sources contribute 84 percent of all NOx emitted from anthropogenic sources based on data provided in Appendix B of the Air District's 2016 Ozone

Plan. In addition, mobile sources contribute 26 percent of all the ROG emitted from sources within the San Joaquin Valley.

The principal factors that affect air quality in and around Merced are:

1. The sink effect, climatic subsidence and temperature inversions and low wind speeds
2. Automobile and truck travel
3. Increases in mobile and stationary pollutants generated by local urban growth.

Automobiles, trucks, buses and other vehicles using hydrocarbon (HC) fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters; animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Merced County, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities. Finally, industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Merced County consist of agricultural production and processing operations.

The primary contributors of PM10 emissions in the San Joaquin Valley are farming activities (22%) and road dust, both paved and unpaved (35%) in 2020 according to emission projections from the CARB. Fugitive windblown dust from “open” fields contributed 14 percent of the PM10.

The four major sources of air pollutant emissions in the SJVAB include industrial plants, motor vehicles, construction activities, and agricultural activities. Industrial plants account for significant portions of regional gaseous and particulate emissions. Motor vehicles, including those from large employers, generate substantial regional gaseous and particulate emissions. Finally, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.). In addition to these primary sources of air pollution, urban areas upwind from Merced County including areas north and west of the San Joaquin Valley, can cause or generate emissions that are transported into Merced County. All four of the major pollutant sources affect ambient air quality throughout the Air Basin.

2.4.1 *Motor Vehicles*

Automobiles, trucks, buses and other vehicles using hydrocarbon fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

2.4.2 *Agricultural and Other Miscellaneous Activities*

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters, animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Merced, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities.

2.4.3 *Industrial Plants*

Industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Merced County consist of agricultural production and processing operations.

2.5 San Joaquin Valley Air Basin Monitoring

SJVAPCD and the CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM2.5, and PM10. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. The closest monitoring station to the Project is located at Merced – South Coffee Avenue Monitoring Station. The station monitors particulates, ozone, carbon monoxide, and nitrogen dioxide. Monitoring data for the past three years is summarized in Table 2.

Table 3 identifies Merced County's attainment status. As indicated, the SJVAB is nonattainment for Ozone (1 hour and 8 hour) and PM. In accordance with the FCAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. The FCAA contains provisions for changing the classifications using factors such as clean air progress rates and requests from States to move areas to a higher classification.

On April 16, 2004, EPA issued a final rule classifying the SJVAB as extreme nonattainment for Ozone, effective May 17, 2004 (69 FR 20550). The (federal) 1-hour ozone standard was revoked on June 6, 2005. However, many of the requirements in the 1-hour attainment plan (SIP) continue to apply to the SJVAB. The current ozone plan is the (federal) 8-hour ozone plan adopted in 2007. The SJVAB was reclassified from a "serious" nonattainment area for the 8-hour ozone standard to "extreme" effective June 4, 2010.

Table 2
Maximum Pollutant Levels at Merced South Coffee Avenue Monitoring Station

Pollutant	Time Averaging	2021 Maximums	2022 Maximums	2023 Maximums	Standards National	Standards State
Ozone (O_3)	1 hour	0.099 ppm	0.096 ppm	0.096 ppm	-	0.09 ppm
Ozone (O_3)	8 hour	0.089 ppm	0.083 ppm	0.079 ppm	0.070 ppm	0.070 ppm
Nitrogen Dioxide (NO_2)	1 hour	38.2 ppb	39.1 ppb	37.1 ppb	100 ppb	0.18 ppm
Nitrogen Dioxide (NO_2)	Annual Average	*	7.0 ppb	6.0 ppb	8.0 ppm	0.030 ppm
Particulates (PM_{10})	24 hour	*	*	*	150 $\mu g/m^3$	50 $\mu g/m^3$
Particulates (PM_{10})	Federal Annual Arithmetic Mean	*	*	*	-	20 $\mu g/m^3$
Particulates ($PM_{2.5}$)	24 hour	77.3 $\mu g/m^3$	39.6 $\mu g/m^3$	35.7 $\mu g/m^3$	35 $\mu g/m^3$	-
Particulates ($PM_{2.5}$)	Federal Annual Arithmetic Mean	11.2 $\mu g/m^3$	9.8 $\mu g/m^3$	8.4 $\mu g/m^3$	12 $\mu g/m^3$	12 $\mu g/m^3$

Source: California Air Resources Board (ADAM) Air Pollution Summaries, 2024

* Means there was insufficient data available to determine the value

Table 3
Merced County Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - 1 Hour	Revoked in 2005	Nonattainment
Ozone - 8 Hour	Nonattainment/Extreme	No State Standard
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified/Attainment	Unclassified
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Lead (Particulate)	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

Source: CARB Website, 2024

a. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

Notes:

National Designation Categories

Non-Attainment Area: Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Unclassified/Attainment Area: Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant or meets the national primary or secondary ambient air quality standard for the pollutant.

State Designation Categories

Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or non-attainment.

Attainment: A pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a three-year period.

Non-attainment: A pollutant is designated non-attainment if there was at least one violation of a State standard for that pollutant in the area.

Non-Attainment/Transitional: A subcategory of the non-attainment designation. An area is designated non-attainment/transitional to signify that the area is close to attaining the standard for the pollutant.

2.6 Air Quality Standards

The FCAA, first adopted in 1963, and periodically amended since then, established National Ambient Air Quality Standards (NAAQS). A set of 1977 amendments determined a deadline for the attainment of these standards. That deadline has passed. Other CAA amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources.

In 1988, the State of California passed the CCAA (State 1988 Statutes, Chapter 568), which set forth a program for achieving more stringent California Ambient Air Quality Standards. The CARB implements State ambient air quality standards, as required in the CCAA, and cooperates with the federal government in implementing pertinent sections of the FCAA Amendments (FCAAA). Further, CARB regulates vehicular emissions throughout the State. The SJVAPCD regulates stationary sources, as well as some mobile sources. Attainment of the more stringent State PM10 Air Quality Standards is not currently required.

The EPA uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called the NAAQS.

The SJVAPCD operates regional air quality monitoring networks that provide information on average concentrations of pollutants for which State or federal agencies have established ambient air quality standards. Descriptions of nine pollutants of importance in Merced County follow.

2.6.1 *Ozone (1-hour and 8-hour)*

The most severe air quality problem in the Air Basin is the high level of ozone. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, ground level, or "bad" ozone, is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up, where it meets the second layer, the stratosphere. The stratospheric, or "good" ozone layer, extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is what is known as a photochemical pollutant. It needs reactive organic gases (ROG), NOx, and sunlight. ROG and NOx are emitted from various sources throughout Merced County. In order to reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Significant ozone formation generally requires an adequate number of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind. Ozone, the primary constituent of smog, is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, ozone is not emitted directly into the air by specific sources. Ozone is created by sunlight acting on other air pollutants (called precursors), specifically NOx and ROG. Sources of precursor gases to the photochemical reaction

that form ozone number in the thousands. Common sources include consumer products, gasoline vapors, chemical solvents, and combustion products of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins. Approximately 50 million people lived in counties with air quality levels above the EPA's health-based national air quality standard in 1994. The highest levels of ozone were recorded in Los Angeles, closely followed by the San Joaquin Valley. High levels also persist in other heavily populated areas, including the Texas Gulf Coast and much of the Northeast.

While the ozone in the upper atmosphere absorbs harmful ultraviolet light, ground-level ozone is damaging to the tissues of plants, animals, and humans, as well as to a wide variety of inanimate materials such as plastics, metals, fabrics, rubber, and paints. Societal costs from ozone damage include increased medical costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

- ✓ ***Health Effects***

  While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems, such as: forests and foothill communities; agricultural crops; and some man-made materials, such as rubber, paint, and plastic. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Ozone accelerates aging and exacerbates pre-existing asthma and bronchitis and, in cases with high concentrations, can lead to the development of asthma in active children. Active people, both children and adults, appear to be more at risk from ozone exposure than those with a low level of activity. Additionally, the elderly and those with respiratory disease are also considered sensitive populations for ozone.

  People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. In addition, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures.

  Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory

tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation and lung tissue damage and a reduction in the amount of air inhaled into the lungs.

The CARB found ozone standards in Merced County nonattainment of Federal and State standards.

2.6.2 *Suspended PM (PM10 and PM2.5)*

Particulate matter pollution consists of very small liquid and solid particles that remain suspended in the air for long periods. Some particles are large or concentrated enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter is emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. PM10 refers to particles less than or equal to 10 microns in aerodynamic diameter. PM2.5 refers to particles less than or equal to 2.5 microns in aerodynamic diameter and are a subset of PM10. Particulates of concern are those that are 10 microns or less in diameter. These are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

In the western United States, there are sources of PM10 in both urban and rural areas. Because particles originate from a variety of sources, their chemical and physical compositions vary widely. The composition of PM10 and PM2.5 can also vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM10 and PM2.5. In addition to those listed previously, secondary particles can also be formed as precipitates from chemical and photochemical reactions of gaseous sulfur dioxide (SO2) and NOx in the atmosphere to create sulfates (SO4) and nitrates (NO3). Secondary particles are of greatest concern during the winter months where low inversion layers tend to trap the precursors of secondary particulates.

The district's 2008 PM2.5 Plan built upon the aggressive emission reduction strategy adopted in the 2007 Ozone Plan and strives to bring the valley into attainment status for the 1997 NAAQS for PM2.5. The district's 2012 PM2.5 Plan provides multiple control strategies to reduce emissions of PM2.5 and other pollutants that form PM2.5. The plan's comprehensive control strategy includes regulatory actions, incentive programs, technology advancement, policy and legislative positions, public outreach, participation and communication, and additional strategies.

✓ ***Health Effects***

PM10 and PM2.5 particles are small enough—about one-seventh the thickness of a human hair, or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings. PM10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. PM10 and PM2.5 can aggravate respiratory disease and cause lung damage, cancer, and premature death.

Although particulate matter can cause health problems for everyone, certain people are especially vulnerable to adverse health effects of PM10. These "sensitive populations" include children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis. Of greatest concern are recent studies that link PM10 exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM10 can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States.

The CARB found PM10 standards in Merced County in attainment of Federal standards and nonattainment for State standards. The CARB found PM2.5 standards in Merced County nonattainment of Federal and State standards.

2.6.3 *Carbon Monoxide (CO)*

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, contributes more than two thirds of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO.

✓ ***Health Effects***

CO enters the bloodstream and binds more readily to hemoglobin than oxygen, reducing the oxygen-carrying capacity of blood and thus reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and in prolonged, enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin (COHb) in the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome (SIDS); and increased daily mortality rate.

Most of the studies evaluating adverse health effects of CO on the central nervous system examine high-level poisoning. Such poisoning results in symptoms ranging from common flu and cold symptoms (shortness of breath on mild exertion, mild headaches, and nausea) to unconsciousness and death.

The CARB found CO standards in Merced County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.4 *Nitrogen Dioxide (NO2)*

Nitrogen oxides (NOx) are a family of highly reactive gases that are primary precursors to the formation of ground-level ozone and react in the atmosphere to form acid rain. NOx is emitted from combustion processes in which fuel is burned at high temperatures, principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A brownish gas, NOx is a strong oxidizing agent that reacts in the air to form corrosive nitric acid, as well as toxic organic nitrates. EPA regulates only nitrogen dioxide (NO2) as a surrogate for this family of compounds because it is the most prevalent form of NOx in the atmosphere that is generated by anthropogenic (human) activities.[1]

✓ ***Health Effects***

NOx is an ozone precursor that combines with Reactive Organic Gases (ROG) to form ozone. See the ozone section above for a discussion of the health effects of ozone.

Direct inhalation of NOx can also cause a wide range of health effects. NOx can irritate the

1 United States Environmental Protection Agency (EPA), Nitrogen Oxides (NOx). Why and How They Are Controlled, 456/F-99-006R, November 2019

lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of nitrogen dioxide (NO2) may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO2 may lead to increased susceptibility to respiratory infection and may cause irreversible alterations in lung structure. Other health effects associated with NOx are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NOx can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NOx can also impair visibility. NOx is a major component of acid deposition in California. NOx may affect both terrestrial and aquatic ecosystems. NOx in the air is a potentially significant contributor to a number of environmental effects such as acid rain and eutrophication in coastal waters. Eutrophication occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

NO2 is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eye, lung, mucus membranes, and skin. Studies of the health impacts of NO2 include experimental studies on animals, controlled laboratory studies on humans, and observational studies.

In animals, long-term exposure to NOx increases susceptibility to respiratory infections, lowering their resistance to such diseases as pneumonia and influenza. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO2, can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between NO2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NOx contributes to a wide range of environmental effects both directly and when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication as discussed above. Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms.

The CARB found NO2 standards in Merced County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.5 *Sulfur Dioxide (SO2)*

The major source of sulfur dioxide (SO2) is the combustion of high-sulfur fuels for electricity generation, petroleum refining and shipping. High concentrations of SO2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO2 levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO2, in conjunction with high levels of PM, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO2 also is a major precursor to PM2.5, which is a significant health concern and a main contributor to poor visibility. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain.

The CARB found SO2 standards in Merced County as unclassified for Federal standards and attainment for State standards.

2.6.6 *Lead (Pb)*

Lead, a naturally occurring metal, can be a constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Lead was used until recently to increase the octane rating in automobile fuel. Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products. Gasoline-powered automobile engines were a major source of airborne lead through the use of lead fuels; however, the use of leaded fuel has been mostly phased out. Since this occurred the ambient concentrations of lead have dropped dramatically.

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children 6 years old and under are most at risk, because their bodies are growing quickly.

The CARB found Lead standards in Merced County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.7 *Toxic Air Contaminants (TAC)*

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are another group of pollutants of concern. TAC is injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TAC is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TAC is regulated on the basis of risk rather than specification of safe levels of contamination. The ten TAC are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM). Caltrans' guidance for transportation studies references the Federal Highway Administration (FHWA) memorandum titled "Interim Guidance on Air Toxic Analysis in NEPA Documents" which discusses emissions quantification of six "priority" compounds of 21 Mobile Source Air Toxics (MSAT) identified by the United States Environmental Protection Agency (USEPA). The six "priority" compounds are diesel exhaust (particulate matter and organic gases), benzene, 1,3-butadiene, acetaldehyde, formaldehyde, and acrolein.

Some studies indicate that diesel PM poses the greatest health risk among the TAC listed above. A 10-year research program (California Air Resources Board 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

Diesel PM differs from other TAC in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TAC, however, no ambient monitoring data is available for diesel PM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a diesel PM exposure method. This method uses the CARB emissions inventory's PM10 database, ambient PM10 monitoring data, and the results from several studies to estimate concentrations of diesel PM. Table 4 depicts the CARB Handbook's recommended buffer distances associated with various types of common sources.

Existing air quality concerns within Merced and the entire SJVAB are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

TABLE 4
Recommendations on Siting New Sensitive Land Uses Such as Residences, Schools, Daycare Centers, Playgrounds, or Medical Facilities*

SOURCE CATEGORY	ADVISORY RECOMMENDATIONS
Freeways and High-Traffic Roads [1]	- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	- Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). - Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	- Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. - Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	- Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	- Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	- Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. - Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	- Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

1: The recommendation to avoid siting new sensitive land uses within 500 feet of a freeway was identified in CARB's Air Quality and Land Use Handbook published in 2005. CARB recently published a technical advisory to the Air Quality and Land Use Handbook indicating that new research has demonstrated promising strategies to reduce pollution exposure along transportation corridors.

*Notes:
• These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.
• Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
• The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
• These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
• Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
• This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
• A summary of the basis for the distance recommendations can be found in the ARB Handbook: Air Quality and Land Use Handbook: A Community Health Perspective.

Source: SJVAPCD 2024

2.6.8 *Odors*

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJVAB. The types of facilities that are known to produce odors are shown in Table 5 along with a reasonable distance from the source within which the degree of odors could possibly be significant. The Project does not propose any uses that would be potential odor sources; however, the information presented in Table 5 will be used as a screening level analysis to determine if the Project would be impacted by existing odor sources in the study area. Such information is presented for informational purposes, but it is noted that the environment's effect on the Project, including exposure to potential odors, would not be an impact for CEQA purposes.

TABLE 5
Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Compositing Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2024

2.6.9 *Naturally Occurring Asbestos (NOA)*

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Asbestos is commonly found in ultramafic rock and near fault zones. The amount of asbestos that is typically present in these rocks' ranges from less than 1% up to approximately 25% and sometimes more. It is released from ultramafic rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways, which are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. Asbestos is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time. Asbestos is hazardous and can cause lung disease and cancer dependent upon the level of exposure. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem.

The proposed Project's construction phase may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021.

2.6.10 *Greenhouse Gas Emissions*

Gases that trap heat in the atmosphere are often called greenhouse gases. Some greenhouse

gases such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities. The principal greenhouse gases that enter the atmosphere because of human activities are:

- ✓ **Carbon Dioxide (CO2):** Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement, asphalt paving, truck trips). Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- ✓ **Methane (CH4):** Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- ✓ **Nitrous Oxide (N2O):** Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- ✓ **Fluorinated Gases:** Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").

3.0 Air-Quality Impacts

3.1 Methodology

The impact assessment for air quality focuses on potential effects the Project might have on air quality within the Merced region. The SJVAPCD has established thresholds of significance for determining environmental significance. These thresholds separate a project's short-term emissions from its long-term emissions. The short-term emissions are mainly related to the construction phase of a project, which are recognized to be short in duration. The long-term emissions are primarily related to the activities that will occur indefinitely as a result of Project operations. Impacts will be evaluated both on the basis of CEQA Appendix G criteria and SJVAPCD significance criteria. The impacts to be evaluated will be those involving construction and operational emissions of criteria pollutants. The SJVAPCD has established thresholds for certain pollutants shown in Table 6.

Table 6
SJVAPCD Air Quality Thresholds of Significance

Project Type	Ozone Precursor Emissions (tons/year)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Construction Emissions	100	10	10	27	15	15
Operational Emissions (Permitted Equipment and Activities)	100	10	10	27	15	15
Operational Emissions (Non-Permitted Equipment and Activities)	100	10	10	27	15	15

Source: SJVAPCD 2024

3.1.1 *CalEEMod*

CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

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

3.2 Short-Term Impacts

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Construction air quality impacts are generally attributable to dust and exhaust pollutants generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities do comprise major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture. Exhaust pollutants are the non-useable gaseous waste products produced during the combustion process. Engine exhaust contains CO, HC, and NOx pollutants which are harmful to the environment.

Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the Project area and may require frequent washing during the construction period.

PM10 emissions can result from construction activities of the Project. The SJVAPCD has determined that compliance with Regulation VIII and other control measures will constitute sufficient mitigation to reduce PM10 impacts to a level considered less-than significant for most development projects. Even with implementation of District Regulation VIII and District Rule 9510, large development projects may not be able to reduce project specific construction impacts below District thresholds of significance.

Ozone precursor emissions are also an impact of construction activities and can be quantified through calculations. Numerous variables factored into estimating total construction emission include level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and amount of materials to be transported onsite or offsite. Additional exhaust emissions would be associated with the transport of workers and materials. Because the specific mix of construction equipment is not presently known for this Project, construction emissions were estimated using CalEEMod Model defaults for construction equipment.

Table 7 shows the CalEEMod estimated construction emissions that would be generated from construction of the Project. Results of the analysis show that emissions generated from construction of the Project will not exceed the SJVAPCD emission thresholds.

Table 7
Project Construction Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_x	PM_{10}	$PM_{2.5}$	CO2e
Project Construction Emissions	2.83	2.76	3.58	0.01	1.13	0.54	682.64
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

3.3 Long-Term Emissions

Long-Term emissions from the Project would be generated primarily by mobile source (vehicle) emissions from the Project site and area sources such as lawn maintenance equipment.

3.3.1 *Localized Operational Emissions – Ozone/Particulate Matter*

The Merced County area is nonattainment for Federal and State air quality standards for ozone, attainment of Federal standards for PM10 and nonattainment for State standards, and nonattainment for Federal and State standards for PM2.5. Nitrogen oxides and reactive organic gases are regulated as ozone precursors. Significant criteria have been established for criteria pollutant emissions as documented in Section 3.1. Operational emissions have been estimated for the Project using the CalEEMod Model and detailed results are included in Appendix A of this report.

Results of the CalEEMod analysis are shown in Table 8 for operational emissions. Results indicate that the annual operational emissions from the Project will be less than the SJVAPCD emission thresholds for criteria pollutants.

Table 8
Project Operational Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_x	PM_{10}	$PM_{2.5}$	CO2e
Project Opeational Emissions	30.70	5.51	8.61	0.07	7.83	2.20	8,097.77
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

3.3.2 *Localized Operational Emissions*

✓ **Carbon Monoxide**

The SJVAPCD is currently in unclassified/attainment for Federal standards and unclassified

for State standards for CO. An analysis of localized CO concentrations is typically warranted to ensure that standards are maintained. Also, an analysis is required to ensure that localized concentrations don't reach potentially unhealthful levels that could affect sensitive receptors (residents, school children, hospital patients, the elderly, etc.).

Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable Level of Service (LOS). CO "Hot Spot" modeling is required if a traffic study reveals that the project will reduce the LOS on one or more streets to E or F or if the project will worsen an existing LOS F.

To analyze the Cumulative Year 2046 Plus Project "worst case" CO concentrations at study roadway segments, the analysis methodology considered the highest annual maximum CO concentration reported in 2013, using 1.0 PPM as an estimate of the background concentration for the 8-hour standard and 2.2 PPM for the 1-hour standard (source: CARB annual publications). Other modeling assumptions include a wind speed of .5 m/s, flat topography, 1,000-meter mixing height, and a 5-degree wind deviation.

✓ **Toxic Air Contaminants (TAC)**

The SJVAPCD's Guidance Document, Guidance for Assessing and Mitigating Air Quality Impacts – 2015, identifies the need for projects to analyze the potential for adverse air quality impacts to sensitive receptors. Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type B Project in that it may potentially place sensitive receptors in the vicinity of existing sources.

The first step in evaluating the potential for impacts to sensitive receptors for TAC's from the Project is to perform a screening level analysis. For Type B Projects, one type of screening tool is found in the CARB Handbook: Air Quality and Land Use Handbook: A Community Perspective. This handbook includes a table (depicted in Table 4) with recommended buffer distances associated with various types of common sources. Table 4 indicates that new sensitive land uses shouldn't be sited within 500 feet of a freeway/urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. State Route (SR) 99, located approximately 1,700 feet from the Project site, carries approximately 52,000 Annual Average Daily Trips (AADT). The Project, particularly its residential uses, are located more than 500 feet from SR 99.

There is an existing gas station (ARCO) located at the southeast corner of Campus Parkway and Coffee Street which offers eight (8) fueling pumps or 16 fueling positions. While the yearly gasoline throughput of the existing gas station is not known, the Project site is located

more than 1,200 feet to the east.

An evaluation of nearby land uses considering CARB's Pollution Mapping Tool shows that the Project will not place sensitive receptors in the vicinity of existing toxic sources. The Project is located more than five (5) miles from the Hilmar Cheese Company, a known toxic emitting source. This facility is the nearest toxic emitting source to the Project site based upon CARB's Pollution Mapping Tool. The screening level analysis for the Project shows that TACs are not a concern based upon the recommendations provided in Table 4 and CARB's Pollution Mapping Tool.

- ✓ Construction

In 1998, the California Environmental Protection Agency (CalEPA) classified diesel exhaust particulate matter (DPM) as a toxic air contaminant (TAC) due to its potential to cause cancer, premature death, and other health issues. The highest potential for TAC emissions during construction is associated with diesel particulate matter emissions from heavy-duty equipment for construction related activities such as demolition, site preparation, paving, building construction, grading and other miscellaneous activities. Diesel exhaust from construction equipment operating at the site poses a health risk to nearby sensitive receptors. The nearest sensitive receptors include the residences to the north of Gerard Avenue and just south of Mission Avenue, located approximately 125 feet from the northern and southern boundaries of the Project site.

Health risks from diesel-exhaust emissions mainly arise from long-term exposure and the risk of cancer. Diesel-powered construction equipment will be used intermittently across the site. State regulations limit idling to 5 minutes, reducing temporary DPM emissions exposure for sensitive receptors. Even during peak construction, diesel PM emissions will come from various locations due to different construction activities not happening in the same place simultaneously. Cancer risk was calculated using the most recent version of the Office of Environmental Health Hazard Assessment (OEHHA) guidelines for health risk assessments. TAC emissions associated with the construction of the Project were used to assess impacts to adjacent sensitive receptors. Table 9 shows the analysis results for maximally exposed individuals at nearby sensitive receptors. A threshold of 10 in one million was used instead of the SJVAPCD's 20 in one million due to the uncertainties in assessing cancer risk from short-term construction exposures. The OEHHA guidelines suggest a lower cancer risk threshold for managing short-term projects.

Results of the analysis show that TAC emissions at residences adjacent to the Project site would exceed the 10 in one million threshold from construction activities. Implementation of Mitigation Measure AQ-1, discussed in Section 4.0, would be required to reduce substantial pollutant concentrations during Project construction.

Table 9
Health Risks from Project Construction

Receptor	Type	Cancer Risk	Chronic HI	Acute Simple HI
1	Residence	**4.08E-05**	8.88E-02	0.00E+00
2	Residence	**4.28E-05**	9.33E-02	0.00E+00
3	Residence	**4.32E-05**	9.42E-02	0.00E+00
4	Residence	**4.02E-05**	8.76E-02	0.00E+00
5	Residence	**3.47E-05**	7.57E-02	0.00E+00
6	Residence	**2.91E-05**	6.34E-02	0.00E+00
7	Residence	**1.57E-05**	3.42E-02	0.00E+00

✓ **Odors**

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact.

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- Generators – projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate, and
- Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

The Project will not generate odorous emissions given the nature or characteristics of the Project. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 above along with a reasonable distance from the source within which, the degree of odors could possibly be significant. None of the facilities shown in Table 5 are located within two (2) miles of the Project.

✓ **Naturally Occurring Asbestos (NOA)**

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Construction of the Project may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021. Compliance with Rule 8021 would limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities associated with the Project.

The Dust Control Plan may include the following measures:

1. Water wetting of road surfaces
2. Rinse vehicles and equipment
3. Wet loads of excavated material, and
4. Cover loads of excavated material

✓ **Greenhouse Gas Emissions**

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Merced County Association of Governments region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. MCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2022, projects that the Merced County region would achieve the prescribed emissions targets.

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- ✓ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- ✓ District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

As shown in Table 10, the Project would generate 12,292.20 Metric Tons of Carbon Dioxide Equivalent per year (MTCO2eq./year) using an operational year of 2005, which includes area, energy, mobile, waste, and water sources. "Business as usual" (BAU) is referenced in CARB's AB 32 Scoping Plan as emissions projected to occur in 2020 if the average baseline emissions during the 2002-2004 period grew to 2020 levels, without control or Best Performance Standards (BPS) offsets. As a result, an estimate of the Project's operational emissions in 2005 were compared to operational emissions in 2020 in order to determine if the Project meets the 29% emission reduction. The SJVAPCD has reviewed relevant scientific information related to GHG emissions and has determined that they are not able to determine a specific quantitative level of GHG emissions increase, above which a project would have a significant impact on the environment, and below which would have an insignificant impact. As a result, the SJVAPCD has determined that projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG. Results of the analysis show that the Project's GHG emissions in the year 2020 are 10,230.91 MTCO2eq./year. This represents an achievement of 17% GHG emission reduction based on BAU, which does not meet the 29% GHG emission reduction target.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. This threshold is often used by agencies, such as the California Public Utilities Commission, to evaluate GHG impacts in areas that do not have specific thresholds (CPUC

2015)[2]. Therefore, because this threshold has been established by the SCAQMD in an effort to control GHG emissions in the largest metropolitan area in the State of California, this threshold is considered a conservative approach for evaluating the significance of GHG emissions in a more rural area, such as Merced County. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 11 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 19% less than the threshold identified by the SCAQMD. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 11 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model.

Table 10
2005/2020 Operational Greenhouse Gas Emissions

Summary Report	CO_2e
Operational Emissions Per Year (2005)	12,292.20 MT/yr
Operational Emissions Per Year (2020)	10,230.91 MT/yr
SJVAPCD Level of Significance	29% Reduction Compared to BAU
Does the Project Meet the Standard	No

Source: CalEEMod

Table 11
Project Operational Greenhouse Gas Emissions

Summary Report	CO_2e
Project Operational Emissions Per Year(Plus amortized construction emissions)	8,120.52 MT/yr

Source: CalEEMod

2 California Public Utilities Commission (CPUC). 2015. Section 4.7, "Greenhouse Gases." Final Environmental Impact Report for the Santa Barbara County Reliability Project. May 2015. Accessed January 18, 2018. http://www.cpuc.ca.gov/environment/info/ene/sbcrp/SBCRP_FEIR.html.

4.0 Impact Determinations and Recommended Mitigation

In accordance with CEQA, when a proposed project is consistent with a General Plan for which an EIR has been certified, the effects of that project are evaluated to determine if they will result in project-specific significant adverse impacts on the environment. The criteria used to determine the significance of an air quality or greenhouse gas impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines and the General Plan EIR. Accordingly, air quality or greenhouse gas impacts resulting from the Project are considered significant if the Project would:

Air Quality

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

Greenhouse Gas Emissions

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

4.1 Air Quality

4.1.1 *Conflict with or obstruct implementation of the applicable air quality plan*

The primary way of determining consistency with the air quality plan's (AQP's) assumptions is determining consistency with the applicable General Plan to ensure that the Project's population density and land use are consistent with the growth assumptions used in the AQPs for the air basin.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. MCAG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in

the AQPs. Existing and future pollutant emissions computed in the AQP are based on land uses from area general plans. AQPs detail the control measures and emission reductions required for reaching attainment of the air standards.

The applicable General Plan for the project is the County of Merced 2030 General Plan Update, which was adopted in 2011. The Project is consistent with the currently adopted General Plan for the City of Merced and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the applicable AQPs. As a result, the Project will not conflict with or obstruct implementation of any air quality plans. Therefore, no mitigation is needed.

4.1.2 *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard*

The Merced County area is nonattainment for Federal and State air quality standards for ozone, in attainment of Federal standards and nonattainment for State standards for PM10, and nonattainment for Federal and State standards for PM2.5. The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. As discussed in Section 4.1.1, the Project is consistent with the currently adopted General Plan for the City of Merced and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the 2016 and 2013 Ozone Plan, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan.

Project specific emissions that exceed the thresholds of significance for criteria pollutants would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the County is in non-attainment under applicable federal or state ambient air quality standards. It should be noted that a project is not characterized as cumulatively insignificant when project emissions fall below thresholds of significance. As discussed in Section 3.1, the SJVAPCD has established thresholds of significance for determining environmental significance which are provided in Table 6.

As discussed above in Section 3.2 and 3.3, results of the analysis show that emissions generated from construction and operation of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants. Therefore, no mitigation is needed.

4.1.3 *Expose sensitive receptors to substantial pollutant concentrations*

The first step in evaluating the potential for impacts to sensitive receptors for TAC's from the Project is to perform a screening level analysis. For Type B Projects, one type of screening tool is found in the CARB Handbook: Air Quality and Land Use Handbook: A Community Perspective.

This handbook includes a table (depicted in Table 4) with recommended buffer distances associated with various types of common sources. Table 4 indicates that new sensitive land uses shouldn't be sited within 500 feet of a freeway/urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. State Route (SR) 99, located approximately 1,700 feet from the Project site, carries approximately 52,000 Annual Average Daily Trips (AADT). The Project, particularly its residential uses, are located more than 500 feet from SR 99.

There is an existing gas station (ARCO) located at the southeast corner of Campus Parkway and Coffee Street which offers eight (8) fueling pumps or 16 fueling positions. While the yearly gasoline throughput of the existing gas station is not known, the Project site is located more than 1,200 feet to the east.

An evaluation of nearby land uses considering CARB's Pollution Mapping Tool shows that the Project will not place sensitive receptors in the vicinity of existing toxic sources. The Project is located more than five (5) miles from the Hilmar Cheese Company, a known toxic emitting source. This facility is the nearest toxic emitting source to the Project site based upon CARB's Pollution Mapping Tool. The screening level analysis for the Project shows that TACs are not a concern based upon the recommendations provided in Table 4 and CARB's Pollution Mapping Tool.

✓ Construction

Health risks from diesel-exhaust emissions mainly arise from long-term exposure and the risk of cancer. Diesel-powered construction equipment will be used intermittently across the site. State regulations limit idling to 5 minutes, reducing temporary DPM emissions exposure for sensitive receptors. Even during peak construction, diesel PM emissions will come from various locations due to different construction activities not happening in the same place simultaneously. TAC emissions associated with the construction of the Project were used to assess impacts to adjacent sensitive receptors. Table 9 shows the analysis results for maximally exposed individuals at nearby sensitive receptors. A threshold of 10 in one million was used instead of the SJVAPCD's 20 in one million due to the uncertainties in assessing cancer risk from short-term construction exposures. Results of the analysis show that TAC emissions at residences adjacent to the Project site would exceed the 10 in one million threshold from construction activities. Implementation of Mitigation Measure AQ-1 would reduce substantial pollutant concentrations during Project construction as shown in Table 12.

- **Mitigation Measure AQ-1:** The Project contractor or Project representatives shall ensure that all off-road diesel-powered construction equipment meets the CARB Tier 4 emissions standards or equivalent.

Table 12
Health Risks from Project Construction with Mitigation

Receptor	Type	Cancer Risk	Chronic HI	Acute Simple HI
1	Residence	9.71E-06	2.12E-02	0.00E+00
2	Residence	9.88E-06	2.15E-02	0.00E+00
3	Residence	9.58E-06	2.09E-02	0.00E+00
4	Residence	8.54E-06	1.86E-02	0.00E+00
5	Residence	7.34E-06	1.60E-02	0.00E+00
6	Residence	6.37E-06	1.39E-02	0.00E+00
7	Residence	4.26E-06	9.28E-03	0.00E+00

Short-Term Impacts

The annual emissions from the construction phase of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants as shown in Table 8. The construction emissions are therefore considered less than significant with the implementation of the SJVAPCD applicable Regulation VIII control measures, which are provided below.

1. *All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.*
2. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
3. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.*
4. *When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.*
5. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
6. *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
7. *Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.*

Naturally Occurring Asbestos (NOA)

The proposed Project's construction phase may cause asbestos to become airborne due to the construction activities that will occur on site. In order to control naturally occurring asbestos dust, the Project will be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021. The Dust Control Plan may include the following measures:

1. Water wetting of road surfaces
2. Rinse vehicles and equipment
3. Wet loads of excavated material, and
4. Cover loads of excavated material

Long-Term Impacts

Long-Term emissions from the Project are generated primarily by mobile source (vehicle) emissions from the project site and area sources such as lawn maintenance equipment. Emissions from long-term operations generally represent a project's most substantial air quality impact. Table 8 summarizes the Project's operational impacts by pollutant. Results indicate that operational emissions from the Project will not exceed the SJVAPCD emissions threshold for any emissions, hence no mitigations are required.

4.1.4 *Result in other emissions such as those leading to odors adversely affecting a substantial number of people*

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- ✓ Generators – projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate, and

- ✓ Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

The proposed Project will not generate odorous emissions given the nature or characteristics of residential developments. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 above along with a reasonable distance from the source within which, the degree of odors could possibly be significant. None of the facilities shown in Table 5 are located within two (2) miles of the Project. Therefore, no mitigation is needed.

4.2 Greenhouse Gas Emissions

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

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- ✓ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- ✓ District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

As shown in Table 10, the Project would generate 12,292.20 Metric Tons of Carbon Dioxide Equivalent per year (MTCO2eq./year) using an operational year of 2005, which includes area, energy, mobile, waste, and water sources. "Business as usual" (BAU) is referenced in CARB's AB 32 Scoping Plan as emissions projected to occur in 2020 if the average baseline emissions during the 2002-2004 period grew to 2020 levels, without control or Best Performance Standards (BPS) offsets. As a result, an estimate of the Project's operational emissions in 2005 were compared to operational emissions in 2020 in order to determine if the Project meets the 29% emission reduction. The SJVAPCD has reviewed relevant scientific information related to GHG emissions and has determined that they are not able to determine a specific quantitative level of GHG emissions increase, above which a project would have a significant impact on the environment, and below which would have an insignificant impact. As a result, the SJVAPCD has determined that projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG. Results of the analysis show that the Project's GHG emissions in the year 2020 are 10,230.91

MTCO2eq./year. This represents an achievement of 17% GHG emission reduction based on BAU, which does not meet the 29% GHG emission reduction target.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. This threshold is often used by agencies, such as the California Public Utilities Commission, to evaluate GHG impacts in areas that do not have specific thresholds (CPUC 2015). Therefore, because this threshold has been established by the SCAQMD in an effort to control GHG emissions in the largest metropolitan area in the State of California, this threshold is considered a conservative approach for evaluating the significance of GHG emissions in a more rural area, such as Merced County. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 11 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 19% less than the threshold identified by the SCAQMD. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 11 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model.

CARB's California GHG Emissions Inventory provides estimates of anthropogenic GHG emissions within California, as well as emissions associated with imported electricity; natural sources are not included in the inventory. California's GHG emissions for 2020 totaled approximately 358.76 million MTCO2eq. The proposed Project's GHG emissions represent less than 0.001% of the total GHG emissions for the state of California when compared to year 2018 emissions data.

Based on the assessment above, the Project will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, any impacts would be less than significant.

4.2.2 *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases*

California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011, to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

SB 375 requires MPOs to adopt an SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the FCOF region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. MCAG's 2022 RTP/SCS, which was adopted in August 2022, projects that the Merced County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. MCAG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in the AQPs. The applicable General Plan for the project is County of Merced 2030 General Plan Update, which was adopted in 2011.

The Project is consistent with the currently adopted General Plan for Merced and the adopted MCAG 2022 RTP/SCS and is therefore consistent with the population growth and VMT applied in those plan documents. Therefore, the Project is consistent with the growth assumptions used in the applicable AQP. It should also be noted that yearly GHG emissions generated by the Project (Table 11) are approximately 19% less than the threshold identified by the SCAQMD (see the discussion for Impact 4.2.1 above).

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- ✓ California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicles, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.

    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

- ✓ Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.

    - The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulation. The Project would not conflict or obstruct this reduction measure.

- ✓ Low Carbon Fuel – Development and adoption of the low carbon fuel standard.

    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

Based on the assessment above, the Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, any impacts would be less than significant.

Appendix A

Merced Gateway - Fresno County, Annual

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

Merced Gateway

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	49.55	1000sqft	4.45	49,550.00	0
Single Family Housing	587.00	Dwelling Unit	64.30	1,056,600.00	1679
Strip Mall	49.55	1000sqft	4.45	49,550.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2031
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent w/ Project Site Plan

Woodstoves - No Wood Stoves onsite

Construction Phase -

Architectural Coating - 50 g/L of VOC consistent with current CalEEMod Defaults

Vehicle Trips - Adjusted to be consistent w/ traffic study

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00

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

tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblConstructionPhase	PhaseEndDate	10/4/2030	6/28/2030
tblConstructionPhase	PhaseEndDate	3/8/2030	11/30/2029
tblConstructionPhase	PhaseEndDate	12/5/2025	8/29/2025
tblConstructionPhase	PhaseEndDate	6/21/2030	3/15/2030
tblConstructionPhase	PhaseEndDate	7/4/2025	3/28/2025
tblConstructionPhase	PhaseStartDate	6/22/2030	3/16/2030
tblConstructionPhase	PhaseStartDate	12/6/2025	8/30/2025
tblConstructionPhase	PhaseStartDate	7/5/2025	3/29/2025
tblConstructionPhase	PhaseStartDate	3/9/2030	12/1/2029
tblConstructionPhase	PhaseStartDate	5/10/2025	2/1/2025
tblLandUse	LotAcreage	1.14	4.45
tblLandUse	LotAcreage	190.58	64.30
tblLandUse	LotAcreage	1.14	4.45
tblVehicleTrips	WD_TR	9.74	10.84
tblVehicleTrips	WD_TR	9.44	8.75
tblVehicleTrips	WD_TR	44.32	67.52
tblWoodstoves	NumberCatalytic	61.00	0.00
tblWoodstoves	NumberNoncatalytic	61.00	0.00

2.0 Emissions Summary

Merced Gateway - Fresno County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.3051	2.7614	2.8032	6.8100e-003	1.0195	0.1086	1.1281	0.4355	0.1004	0.5359	0.0000	604.6079	604.6079	0.1448	0.0116	611.6866
2026	0.2676	2.1206	2.8300	7.4400e-003	0.3219	0.0728	0.3947	0.0871	0.0685	0.1557	0.0000	670.9316	670.9316	0.0766	0.0329	682.6412
2027	0.2624	2.1134	2.7931	7.3400e-003	0.3219	0.0727	0.3946	0.0871	0.0684	0.1556	0.0000	661.6065	661.6065	0.0761	0.0320	673.0495
2028	0.2567	2.0996	2.7520	7.2200e-003	0.3206	0.0724	0.3930	0.0868	0.0681	0.1549	0.0000	650.5039	650.5039	0.0755	0.0311	661.6590
2029	0.2428	2.0233	2.6715	6.8400e-003	0.2972	0.0711	0.3684	0.0805	0.0669	0.1473	0.0000	614.9990	614.9990	0.0762	0.0281	625.2639
2030	3.5820	0.2266	0.5302	9.9000e-004	0.0179	9.7500e-003	0.0277	4.7700e-003	9.7400e-003	0.0145	0.0000	86.1409	86.1409	3.6600e-003	2.7000e-004	86.3144
Maximum	**3.5820**	**2.7614**	**2.8300**	**7.4400e-003**	**1.0195**	**0.1086**	**1.1281**	**0.4355**	**0.1004**	**0.5359**	**0.0000**	**670.9316**	**670.9316**	**0.1448**	**0.0329**	**682.6412**

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

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.3051	2.7614	2.8032	6.8100e-003	1.0195	0.1086	1.1281	0.4355	0.1004	0.5359	0.0000	604.6073	604.6073	0.1448	0.0116	611.6861
2026	0.2676	2.1206	2.8300	7.4400e-003	0.3219	0.0728	0.3947	0.0871	0.0685	0.1557	0.0000	670.9313	670.9313	0.0766	0.0329	682.6408
2027	0.2624	2.1134	2.7931	7.3400e-003	0.3219	0.0727	0.3946	0.0871	0.0684	0.1556	0.0000	661.6062	661.6062	0.0761	0.0320	673.0492
2028	0.2567	2.0996	2.7520	7.2200e-003	0.3206	0.0724	0.3930	0.0868	0.0681	0.1549	0.0000	650.5035	650.5035	0.0755	0.0311	661.6587
2029	0.2428	2.0233	2.6715	6.8400e-003	0.2972	0.0711	0.3684	0.0805	0.0669	0.1473	0.0000	614.9987	614.9987	0.0762	0.0281	625.2636
2030	3.5820	0.2266	0.5302	9.9000e-004	0.0179	9.7500e-003	0.0277	4.7700e-003	9.7400e-003	0.0145	0.0000	86.1408	86.1408	3.6600e-003	2.7000e-004	86.3143
Maximum	**3.5820**	**2.7614**	**2.8300**	**7.4400e-003**	**1.0195**	**0.1086**	**1.1281**	**0.4355**	**0.1004**	**0.5359**	**0.0000**	**670.9313**	**670.9313**	**0.1448**	**0.0329**	**682.6408**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-1-2025**	**4-30-2025**	0.9203	0.9203
2	**5-1-2025**	**7-31-2025**	1.0164	1.0164
3	**8-1-2025**	**10-31-2025**	0.7351	0.7351
4	**11-1-2025**	**1-31-2026**	0.6079	0.6079
5	**2-1-2026**	**4-30-2026**	0.5836	0.5836

Merced Gateway - Fresno County, Annual

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

6	**5-1-2026**	**7-31-2026**	0.5988	0.5988
7	**8-1-2026**	**10-31-2026**	0.6011	0.6011
8	**11-1-2026**	**1-31-2027**	0.6045	0.6045
9	**2-1-2027**	**4-30-2027**	0.5805	0.5805
10	**5-1-2027**	**7-31-2027**	0.5956	0.5956
11	**8-1-2027**	**10-31-2027**	0.5978	0.5978
12	**11-1-2027**	**1-31-2028**	0.6014	0.6014
13	**2-1-2028**	**4-30-2028**	0.5843	0.5843
14	**5-1-2028**	**7-31-2028**	0.5928	0.5928
15	**8-1-2028**	**10-31-2028**	0.5951	0.5951
16	**11-1-2028**	**1-31-2029**	0.5987	0.5987
17	**2-1-2029**	**4-30-2029**	0.5753	0.5753
18	**5-1-2029**	**7-31-2029**	0.5902	0.5902
19	**8-1-2029**	**10-31-2029**	0.5925	0.5925
20	**11-1-2029**	**1-31-2030**	0.3950	0.3950
21	**2-1-2030**	**4-30-2030**	1.6989	1.6989
22	**5-1-2030**	**7-31-2030**	2.0106	2.0106
		Highest	2.0106	2.0106

Merced Gateway - Fresno County, Annual

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7300	0.2697	4.4414	1.6300e-003		0.0419	0.0419		0.0419	0.0419	0.0000	261.4141	261.4141	0.0117	4.6600e-003	263.0949
Energy	0.0824	0.7073	0.3247	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	1,325.0975	1,325.0975	0.0981	0.0249	1,334.9839
Mobile	2.7983	4.5351	25.9350	0.0641	7.6870	0.0481	7.7351	2.0557	0.0452	2.1008	0.0000	5,935.6144	5,935.6144	0.2969	0.3298	6,041.3049
Waste						0.0000	0.0000		0.0000	0.0000	142.6113	0.0000	142.6113	8.4281	0.0000	353.3135
Water						0.0000	0.0000		0.0000	0.0000	16.0919	35.6784	51.7703	1.6586	0.0397	105.0726
Total	**8.6106**	**5.5121**	**30.7011**	**0.0703**	**7.6870**	**0.1470**	**7.8339**	**2.0557**	**0.1440**	**2.1997**	**158.7032**	**7,557.8045**	**7,716.5077**	**10.4933**	**0.3991**	**8,097.7698**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7300	0.2697	4.4414	1.6300e-003		0.0419	0.0419		0.0419	0.0419	0.0000	261.4141	261.4141	0.0117	4.6600e-003	263.0949
Energy	0.0824	0.7073	0.3247	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	1,325.0975	1,325.0975	0.0981	0.0249	1,334.9839
Mobile	2.7983	4.5351	25.9350	0.0641	7.6870	0.0481	7.7351	2.0557	0.0452	2.1008	0.0000	5,935.6144	5,935.6144	0.2969	0.3298	6,041.3049
Waste						0.0000	0.0000		0.0000	0.0000	142.6113	0.0000	142.6113	8.4281	0.0000	353.3135
Water						0.0000	0.0000		0.0000	0.0000	16.0919	35.6784	51.7703	1.6586	0.0397	105.0726
Total	**8.6106**	**5.5121**	**30.7011**	**0.0703**	**7.6870**	**0.1470**	**7.8339**	**2.0557**	**0.1440**	**2.1997**	**158.7032**	**7,557.8045**	**7,716.5077**	**10.4933**	**0.3991**	**8,097.7698**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/1/2025	3/28/2025	5	40	
2	Grading	Grading	3/29/2025	8/29/2025	5	110	
3	Building Construction	Building Construction	8/30/2025	11/30/2029	5	1110	

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

4	Paving	Paving	12/1/2029	3/15/2030	5	75	
5	Architectural Coating	Architectural Coating	3/16/2030	6/28/2030	5	75	

Acres of Grading (Site Preparation Phase): 60

Acres of Grading (Grading Phase): 330

Acres of Paving: 0

Residential Indoor: 2,139,615; Residential Outdoor: 713,205; Non-Residential Indoor: 148,650; Non-Residential Outdoor: 49,550; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	243.00	79.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3931	0.0000	0.3931	0.2021	0.0000	0.2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0495	0.5047	0.3582	7.6000e-004		0.0217	0.0217		0.0200	0.0200	0.0000	66.9340	66.9340	0.0217	0.0000	67.4752
Total	**0.0495**	**0.5047**	**0.3582**	**7.6000e-004**	**0.3931**	**0.0217**	**0.4149**	**0.2021**	**0.0200**	**0.2221**	**0.0000**	**66.9340**	**66.9340**	**0.0217**	**0.0000**	**67.4752**

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

3.2 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	5.7000e-004	7.2600e-003	2.0000e-005	2.8800e-003	1.0000e-005	2.8900e-003	7.6000e-004	1.0000e-005	7.8000e-004	0.0000	2.1151	2.1151	6.0000e-005	6.0000e-005	2.1333
Total	**9.6000e-004**	**5.7000e-004**	**7.2600e-003**	**2.0000e-005**	**2.8800e-003**	**1.0000e-005**	**2.8900e-003**	**7.6000e-004**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**2.1151**	**2.1151**	**6.0000e-005**	**6.0000e-005**	**2.1333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3931	0.0000	0.3931	0.2021	0.0000	0.2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0495	0.5047	0.3582	7.6000e-004		0.0217	0.0217		0.0200	0.0200	0.0000	66.9339	66.9339	0.0217	0.0000	67.4751
Total	**0.0495**	**0.5047**	**0.3582**	**7.6000e-004**	**0.3931**	**0.0217**	**0.4149**	**0.2021**	**0.0200**	**0.2221**	**0.0000**	**66.9339**	**66.9339**	**0.0217**	**0.0000**	**67.4751**

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

3.2 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	5.7000e-004	7.2600e-003	2.0000e-005	2.8800e-003	1.0000e-005	2.8900e-003	7.6000e-004	1.0000e-005	7.8000e-004	0.0000	2.1151	2.1151	6.0000e-005	6.0000e-005	2.1333
Total	**9.6000e-004**	**5.7000e-004**	**7.2600e-003**	**2.0000e-005**	**2.8800e-003**	**1.0000e-005**	**2.8900e-003**	**7.6000e-004**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**2.1151**	**2.1151**	**6.0000e-005**	**6.0000e-005**	**2.1333**

3.3 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5062	0.0000	0.5062	0.2010	0.0000	0.2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1596	1.5369	1.4482	3.4100e-003		0.0622	0.0622		0.0572	0.0572	0.0000	299.7842	299.7842	0.0970	0.0000	302.2081
Total	**0.1596**	**1.5369**	**1.4482**	**3.4100e-003**	**0.5062**	**0.0622**	**0.5684**	**0.2010**	**0.0572**	**0.2582**	**0.0000**	**299.7842**	**299.7842**	**0.0970**	**0.0000**	**302.2081**

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

3.3 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9300e-003	1.7300e-003	0.0222	7.0000e-005	8.7900e-003	4.0000e-005	8.8300e-003	2.3400e-003	4.0000e-005	2.3700e-003	0.0000	6.4629	6.4629	1.7000e-004	1.7000e-004	6.5186
Total	**2.9300e-003**	**1.7300e-003**	**0.0222**	**7.0000e-005**	**8.7900e-003**	**4.0000e-005**	**8.8300e-003**	**2.3400e-003**	**4.0000e-005**	**2.3700e-003**	**0.0000**	**6.4629**	**6.4629**	**1.7000e-004**	**1.7000e-004**	**6.5186**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5062	0.0000	0.5062	0.2010	0.0000	0.2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1596	1.5369	1.4482	3.4100e-003		0.0622	0.0622		0.0572	0.0572	0.0000	299.7838	299.7838	0.0970	0.0000	302.2077
Total	**0.1596**	**1.5369**	**1.4482**	**3.4100e-003**	**0.5062**	**0.0622**	**0.5684**	**0.2010**	**0.0572**	**0.2582**	**0.0000**	**299.7838**	**299.7838**	**0.0970**	**0.0000**	**302.2077**

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

3.3 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9300e-003	1.7300e-003	0.0222	7.0000e-005	8.7900e-003	4.0000e-005	8.8300e-003	2.3400e-003	4.0000e-005	2.3700e-003	0.0000	6.4629	6.4629	1.7000e-004	1.7000e-004	6.5186
Total	**2.9300e-003**	**1.7300e-003**	**0.0222**	**7.0000e-005**	**8.7900e-003**	**4.0000e-005**	**8.8300e-003**	**2.3400e-003**	**4.0000e-005**	**2.3700e-003**	**0.0000**	**6.4629**	**6.4629**	**1.7000e-004**	**1.7000e-004**	**6.5186**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0602	0.5487	0.7077	1.1900e-003		0.0232	0.0232		0.0218	0.0218	0.0000	102.0446	102.0446	0.0240	0.0000	102.6443
Total	**0.0602**	**0.5487**	**0.7077**	**1.1900e-003**		**0.0232**	**0.0232**		**0.0218**	**0.0218**	**0.0000**	**102.0446**	**102.0446**	**0.0240**	**0.0000**	**102.6443**

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

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5400e-003	0.1521	0.0438	6.7000e-004	0.0231	9.9000e-004	0.0240	6.6600e-003	9.4000e-004	7.6000e-003	0.0000	64.4484	64.4484	3.2000e-004	9.7000e-003	67.3469
Worker	0.0284	0.0168	0.2158	6.9000e-004	0.0855	3.7000e-004	0.0859	0.0227	3.4000e-004	0.0231	0.0000	62.8189	62.8189	1.6600e-003	1.6800e-003	63.3603
Total	**0.0320**	**0.1689**	**0.2595**	**1.3600e-003**	**0.1085**	**1.3600e-003**	**0.1099**	**0.0294**	**1.2800e-003**	**0.0307**	**0.0000**	**127.2672**	**127.2672**	**1.9800e-003**	**0.0114**	**130.7073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0602	0.5487	0.7077	1.1900e-003		0.0232	0.0232		0.0218	0.0218	0.0000	102.0444	102.0444	0.0240	0.0000	102.6441
Total	**0.0602**	**0.5487**	**0.7077**	**1.1900e-003**		**0.0232**	**0.0232**		**0.0218**	**0.0218**	**0.0000**	**102.0444**	**102.0444**	**0.0240**	**0.0000**	**102.6441**

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

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5400e-003	0.1521	0.0438	6.7000e-004	0.0231	9.9000e-004	0.0240	6.6600e-003	9.4000e-004	7.6000e-003	0.0000	64.4484	64.4484	3.2000e-004	9.7000e-003	67.3469
Worker	0.0284	0.0168	0.2158	6.9000e-004	0.0855	3.7000e-004	0.0859	0.0227	3.4000e-004	0.0231	0.0000	62.8189	62.8189	1.6600e-003	1.6800e-003	63.3603
Total	**0.0320**	**0.1689**	**0.2595**	**1.3600e-003**	**0.1085**	**1.3600e-003**	**0.1099**	**0.0294**	**1.2800e-003**	**0.0307**	**0.0000**	**127.2672**	**127.2672**	**1.9800e-003**	**0.0114**	**130.7073**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0103	0.4485	0.1276	1.9500e-003	0.0684	2.9100e-003	0.0713	0.0198	2.7800e-003	0.0225	0.0000	187.3831	187.3831	9.2000e-004	0.0282	195.8077
Worker	0.0789	0.0449	0.6034	1.9700e-003	0.2535	1.0600e-003	0.2546	0.0674	9.7000e-004	0.0684	0.0000	180.8937	180.8937	4.4900e-003	4.6800e-003	182.4000
Total	**0.0892**	**0.4933**	**0.7310**	**3.9200e-003**	**0.3219**	**3.9700e-003**	**0.3258**	**0.0871**	**3.7500e-003**	**0.0909**	**0.0000**	**368.2767**	**368.2767**	**5.4100e-003**	**0.0329**	**378.2077**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0103	0.4485	0.1276	1.9500e-003	0.0684	2.9100e-003	0.0713	0.0198	2.7800e-003	0.0225	0.0000	187.3831	187.3831	9.2000e-004	0.0282	195.8077
Worker	0.0789	0.0449	0.6034	1.9700e-003	0.2535	1.0600e-003	0.2546	0.0674	9.7000e-004	0.0684	0.0000	180.8937	180.8937	4.4900e-003	4.6800e-003	182.4000
Total	**0.0892**	**0.4933**	**0.7310**	**3.9200e-003**	**0.3219**	**3.9700e-003**	**0.3258**	**0.0871**	**3.7500e-003**	**0.0909**	**0.0000**	**368.2767**	**368.2767**	**5.4100e-003**	**0.0329**	**378.2077**

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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

3.4 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.4455	0.1258	1.9100e-003	0.0684	2.8900e-003	0.0712	0.0198	2.7600e-003	0.0225	0.0000	183.4029	183.4029	8.8000e-004	0.0276	191.6464
Worker	0.0739	0.0407	0.5683	1.9100e-003	0.2535	1.0000e-003	0.2545	0.0674	9.2000e-004	0.0683	0.0000	175.5488	175.5488	4.1000e-003	4.4200e-003	176.9696
Total	**0.0840**	**0.4861**	**0.6941**	**3.8200e-003**	**0.3219**	**3.8900e-003**	**0.3258**	**0.0871**	**3.6800e-003**	**0.0908**	**0.0000**	**358.9516**	**358.9516**	**4.9800e-003**	**0.0320**	**368.6160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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

3.4 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.4455	0.1258	1.9100e-003	0.0684	2.8900e-003	0.0712	0.0198	2.7600e-003	0.0225	0.0000	183.4029	183.4029	8.8000e-004	0.0276	191.6464
Worker	0.0739	0.0407	0.5683	1.9100e-003	0.2535	1.0000e-003	0.2545	0.0674	9.2000e-004	0.0683	0.0000	175.5488	175.5488	4.1000e-003	4.4200e-003	176.9696
Total	**0.0840**	**0.4861**	**0.6941**	**3.8200e-003**	**0.3219**	**3.8900e-003**	**0.3258**	**0.0871**	**3.6800e-003**	**0.0908**	**0.0000**	**358.9516**	**358.9516**	**4.9800e-003**	**0.0320**	**368.6160**

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

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

3.4 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8900e-003	0.4415	0.1239	1.8700e-003	0.0681	2.8600e-003	0.0710	0.0197	2.7400e-003	0.0224	0.0000	178.9169	178.9169	8.4000e-004	0.0269	186.9558
Worker	0.0691	0.0371	0.5371	1.8500e-003	0.2526	9.3000e-004	0.2535	0.0671	8.6000e-004	0.0680	0.0000	170.0917	170.0917	3.7500e-003	4.2000e-003	171.4362
Total	**0.0790**	**0.4785**	**0.6610**	**3.7200e-003**	**0.3206**	**3.7900e-003**	**0.3244**	**0.0868**	**3.6000e-003**	**0.0904**	**0.0000**	**349.0086**	**349.0086**	**4.5900e-003**	**0.0311**	**358.3919**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

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

3.4 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8900e-003	0.4415	0.1239	1.8700e-003	0.0681	2.8600e-003	0.0710	0.0197	2.7400e-003	0.0224	0.0000	178.9169	178.9169	8.4000e-004	0.0269	186.9558
Worker	0.0691	0.0371	0.5371	1.8500e-003	0.2526	9.3000e-004	0.2535	0.0671	8.6000e-004	0.0680	0.0000	170.0917	170.0917	3.7500e-003	4.2000e-003	171.4362
Total	**0.0790**	**0.4785**	**0.6610**	**3.7200e-003**	**0.3206**	**3.7900e-003**	**0.3244**	**0.0868**	**3.6000e-003**	**0.0904**	**0.0000**	**349.0086**	**349.0086**	**4.5900e-003**	**0.0311**	**358.3919**

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1641	1.4964	1.9302	3.2400e-003		0.0633	0.0633		0.0596	0.0596	0.0000	278.3033	278.3033	0.0654	0.0000	279.9389
Total	**0.1641**	**1.4964**	**1.9302**	**3.2400e-003**		**0.0633**	**0.0633**		**0.0596**	**0.0596**	**0.0000**	**278.3033**	**278.3033**	**0.0654**	**0.0000**	**279.9389**

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

3.4 Building Construction - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-003	0.4052	0.1133	1.6900e-003	0.0629	2.6200e-003	0.0655	0.0182	2.5100e-003	0.0207	0.0000	161.8037	161.8037	7.4000e-004	0.0243	169.0709
Worker	0.0597	0.0315	0.4725	1.6700e-003	0.2331	8.1000e-004	0.2339	0.0620	7.4000e-004	0.0627	0.0000	153.0451	153.0451	3.1900e-003	3.7100e-003	154.2309
Total	**0.0687**	**0.4367**	**0.5858**	**3.3600e-003**	**0.2960**	**3.4300e-003**	**0.2994**	**0.0801**	**3.2500e-003**	**0.0834**	**0.0000**	**314.8489**	**314.8489**	**3.9300e-003**	**0.0280**	**323.3018**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1641	1.4964	1.9302	3.2400e-003		0.0633	0.0633		0.0596	0.0596	0.0000	278.3030	278.3030	0.0654	0.0000	279.9385
Total	**0.1641**	**1.4964**	**1.9302**	**3.2400e-003**		**0.0633**	**0.0633**		**0.0596**	**0.0596**	**0.0000**	**278.3030**	**278.3030**	**0.0654**	**0.0000**	**279.9385**

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

3.4 Building Construction - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-003	0.4052	0.1133	1.6900e-003	0.0629	2.6200e-003	0.0655	0.0182	2.5100e-003	0.0207	0.0000	161.8037	161.8037	7.4000e-004	0.0243	169.0709
Worker	0.0597	0.0315	0.4725	1.6700e-003	0.2331	8.1000e-004	0.2339	0.0620	7.4000e-004	0.0627	0.0000	153.0451	153.0451	3.1900e-003	3.7100e-003	154.2309
Total	**0.0687**	**0.4367**	**0.5858**	**3.3600e-003**	**0.2960**	**3.4300e-003**	**0.2994**	**0.0801**	**3.2500e-003**	**0.0834**	**0.0000**	**314.8489**	**314.8489**	**3.9300e-003**	**0.0280**	**323.3018**

3.5 Paving - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6100e-003	0.0901	0.1531	2.4000e-004		4.3900e-003	4.3900e-003		4.0400e-003	4.0400e-003	0.0000	21.0202	21.0202	6.8000e-003	0.0000	21.1902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.6100e-003**	**0.0901**	**0.1531**	**2.4000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0400e-003**	**4.0400e-003**	**0.0000**	**21.0202**	**21.0202**	**6.8000e-003**	**0.0000**	**21.1902**

Merced Gateway - Fresno County, Annual

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

3.5 Paving - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	1.7000e-004	2.5500e-003	1.0000e-005	1.2600e-003	0.0000	1.2600e-003	3.3000e-004	0.0000	3.4000e-004	0.0000	0.8266	0.8266	2.0000e-005	2.0000e-005	0.8330
Total	**3.2000e-004**	**1.7000e-004**	**2.5500e-003**	**1.0000e-005**	**1.2600e-003**	**0.0000**	**1.2600e-003**	**3.3000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.8266**	**0.8266**	**2.0000e-005**	**2.0000e-005**	**0.8330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6100e-003	0.0901	0.1531	2.4000e-004		4.3900e-003	4.3900e-003		4.0400e-003	4.0400e-003	0.0000	21.0202	21.0202	6.8000e-003	0.0000	21.1902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.6100e-003**	**0.0901**	**0.1531**	**2.4000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0400e-003**	**4.0400e-003**	**0.0000**	**21.0202**	**21.0202**	**6.8000e-003**	**0.0000**	**21.1902**

Merced Gateway - Fresno County, Annual

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

3.5 Paving - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	1.7000e-004	2.5500e-003	1.0000e-005	1.2600e-003	0.0000	1.2600e-003	3.3000e-004	0.0000	3.4000e-004	0.0000	0.8266	0.8266	2.0000e-005	2.0000e-005	0.8330
Total	**3.2000e-004**	**1.7000e-004**	**2.5500e-003**	**1.0000e-005**	**1.2600e-003**	**0.0000**	**1.2600e-003**	**3.3000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.8266**	**0.8266**	**2.0000e-005**	**2.0000e-005**	**0.8330**

3.5 Paving - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0374	0.1923	0.4279	7.6000e-004		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	65.0687	65.0687	3.0500e-003	0.0000	65.1450
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0374**	**0.1923**	**0.4279**	**7.6000e-004**		**8.9300e-003**	**8.9300e-003**		**8.9300e-003**	**8.9300e-003**	**0.0000**	**65.0687**	**65.0687**	**3.0500e-003**	**0.0000**	**65.1450**

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

3.5 Paving - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.1000e-004	6.2900e-003	2.0000e-005	3.2400e-003	1.0000e-005	3.2500e-003	8.6000e-004	1.0000e-005	8.7000e-004	0.0000	2.0765	2.0765	4.0000e-005	5.0000e-005	2.0923
Total	**7.8000e-004**	**4.1000e-004**	**6.2900e-003**	**2.0000e-005**	**3.2400e-003**	**1.0000e-005**	**3.2500e-003**	**8.6000e-004**	**1.0000e-005**	**8.7000e-004**	**0.0000**	**2.0765**	**2.0765**	**4.0000e-005**	**5.0000e-005**	**2.0923**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0374	0.1923	0.4279	7.6000e-004		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	65.0686	65.0686	3.0500e-003	0.0000	65.1449
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0374**	**0.1923**	**0.4279**	**7.6000e-004**		**8.9300e-003**	**8.9300e-003**		**8.9300e-003**	**8.9300e-003**	**0.0000**	**65.0686**	**65.0686**	**3.0500e-003**	**0.0000**	**65.1449**

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

3.5 Paving - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.1000e-004	6.2900e-003	2.0000e-005	3.2400e-003	1.0000e-005	3.2500e-003	8.6000e-004	1.0000e-005	8.7000e-004	0.0000	2.0765	2.0765	4.0000e-005	5.0000e-005	2.0923
Total	**7.8000e-004**	**4.1000e-004**	**6.2900e-003**	**2.0000e-005**	**3.2400e-003**	**1.0000e-005**	**3.2500e-003**	**8.6000e-004**	**1.0000e-005**	**8.7000e-004**	**0.0000**	**2.0765**	**2.0765**	**4.0000e-005**	**5.0000e-005**	**2.0923**

3.6 Architectural Coating - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.5354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-003	0.0321	0.0674	1.1000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	9.5747	9.5747	3.9000e-004	0.0000	9.5844
Total	**3.5403**	**0.0321**	**0.0674**	**1.1000e-004**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**9.5747**	**9.5747**	**3.9000e-004**	**0.0000**	**9.5844**

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

3.6 Architectural Coating - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5300e-003	1.8400e-003	0.0285	1.0000e-004	0.0147	5.0000e-005	0.0147	3.9000e-003	4.0000e-005	3.9500e-003	0.0000	9.4210	9.4210	1.9000e-004	2.3000e-004	9.4928
Total	**3.5300e-003**	**1.8400e-003**	**0.0285**	**1.0000e-004**	**0.0147**	**5.0000e-005**	**0.0147**	**3.9000e-003**	**4.0000e-005**	**3.9500e-003**	**0.0000**	**9.4210**	**9.4210**	**1.9000e-004**	**2.3000e-004**	**9.4928**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.5354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-003	0.0321	0.0674	1.1000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	9.5747	9.5747	3.9000e-004	0.0000	9.5844
Total	**3.5403**	**0.0321**	**0.0674**	**1.1000e-004**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**9.5747**	**9.5747**	**3.9000e-004**	**0.0000**	**9.5844**

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

3.6 Architectural Coating - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5300e-003	1.8400e-003	0.0285	1.0000e-004	0.0147	5.0000e-005	0.0147	3.9000e-003	4.0000e-005	3.9500e-003	0.0000	9.4210	9.4210	1.9000e-004	2.3000e-004	9.4928
Total	**3.5300e-003**	**1.8400e-003**	**0.0285**	**1.0000e-004**	**0.0147**	**5.0000e-005**	**0.0147**	**3.9000e-003**	**4.0000e-005**	**3.9500e-003**	**0.0000**	**9.4210**	**9.4210**	**1.9000e-004**	**2.3000e-004**	**9.4928**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7983	4.5351	25.9350	0.0641	7.6870	0.0481	7.7351	2.0557	0.0452	2.1008	0.0000	5,935.6144	5,935.6144	0.2969	0.3298	6,041.3049
Unmitigated	2.7983	4.5351	25.9350	0.0641	7.6870	0.0481	7.7351	2.0557	0.0452	2.1008	0.0000	5,935.6144	5,935.6144	0.2969	0.3298	6,041.3049

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	537.12	109.51	34.69	966,075	966,075
Single Family Housing	5,136.25	5,599.98	5018.85	15,192,462	15,192,462
Strip Mall	3,345.62	2,083.08	1012.31	4,361,257	4,361,257
Total	9,018.99	7,792.57	6,065.84	20,519,794	20,519,794

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.545460	0.054723	0.176449	0.132329	0.021147	0.005812	0.015202	0.022551	0.000674	0.000277	0.021695	0.001298	0.002384

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

Single Family Housing	0.545460	0.054723	0.176449	0.132329	0.021147	0.005812	0.015202	0.022551	0.000674	0.000277	0.021695	0.001298	0.002384
Strip Mall	0.545460	0.054723	0.176449	0.132329	0.021147	0.005812	0.015202	0.022551	0.000674	0.000277	0.021695	0.001298	0.002384

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	509.9145	509.9145	0.0825	0.0100	514.9566
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	509.9145	509.9145	0.0825	0.0100	514.9566
NaturalGas Mitigated	0.0824	0.7073	0.3247	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	815.1831	815.1831	0.0156	0.0150	820.0273
NaturalGas Unmitigated	0.0824	0.7073	0.3247	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	815.1831	815.1831	0.0156	0.0150	820.0273

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	640186	3.4500e-003	0.0314	0.0264	1.9000e-004		2.3900e-003	2.3900e-003		2.3900e-003	2.3900e-003	0.0000	34.1628	34.1628	6.5000e-004	6.3000e-004	34.3658
Single Family Housing	1.411e+007	0.0761	0.6502	0.2767	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	752.9656	752.9656	0.0144	0.0138	757.4401
Strip Mall	525726	2.8300e-003	0.0258	0.0217	1.5000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	28.0547	28.0547	5.4000e-004	5.1000e-004	28.2214
Total		**0.0824**	**0.7073**	**0.3247**	**4.4900e-003**		**0.0569**	**0.0569**		**0.0569**	**0.0569**	**0.0000**	**815.1830**	**815.1830**	**0.0156**	**0.0149**	**820.0273**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	640186	3.4500e-003	0.0314	0.0264	1.9000e-004		2.3900e-003	2.3900e-003		2.3900e-003	2.3900e-003	0.0000	34.1628	34.1628	6.5000e-004	6.3000e-004	34.3658
Single Family Housing	1.411e+007	0.0761	0.6502	0.2767	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	752.9656	752.9656	0.0144	0.0138	757.4401
Strip Mall	525726	2.8300e-003	0.0258	0.0217	1.5000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	28.0547	28.0547	5.4000e-004	5.1000e-004	28.2214
Total		**0.0824**	**0.7073**	**0.3247**	**4.4900e-003**		**0.0569**	**0.0569**		**0.0569**	**0.0569**	**0.0000**	**815.1830**	**815.1830**	**0.0156**	**0.0149**	**820.0273**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	438022	40.5275	6.5600e-003	7.9000e-004	40.9282
Single Family Housing	4.68071e+006	433.0774	0.0701	8.4900e-003	437.3597
Strip Mall	392436	36.3097	5.8700e-003	7.1000e-004	36.6687
Total		**509.9145**	**0.0825**	**9.9900e-003**	**514.9566**

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	438022	40.5275	6.5600e-003	7.9000e-004	40.9282
Single Family Housing	4.68071e+006	433.0774	0.0701	8.4900e-003	437.3597
Strip Mall	392436	36.3097	5.8700e-003	7.1000e-004	36.6687
Total		**509.9145**	**0.0825**	**9.9900e-003**	**514.9566**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.7300	0.2697	4.4414	1.6300e-003		0.0419	0.0419		0.0419	0.0419	0.0000	261.4141	261.4141	0.0117	4.6600e-003	263.0949
Unmitigated	5.7300	0.2697	4.4414	1.6300e-003		0.0419	0.0419		0.0419	0.0419	0.0000	261.4141	261.4141	0.0117	4.6600e-003	263.0949

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.5136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0257	0.2196	0.0934	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.2927	254.2927	4.8700e-003	4.6600e-003	255.8039
Landscaping	0.1301	0.0501	4.3479	2.3000e-004		0.0242	0.0242		0.0242	0.0242	0.0000	7.1214	7.1214	6.7900e-003	0.0000	7.2911
Total	**5.7300**	**0.2697**	**4.4414**	**1.6300e-003**		**0.0419**	**0.0419**		**0.0419**	**0.0419**	**0.0000**	**261.4141**	**261.4141**	**0.0117**	**4.6600e-003**	**263.0950**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.5136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0257	0.2196	0.0934	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.2927	254.2927	4.8700e-003	4.6600e-003	255.8039
Landscaping	0.1301	0.0501	4.3479	2.3000e-004		0.0242	0.0242		0.0242	0.0242	0.0000	7.1214	7.1214	6.7900e-003	0.0000	7.2911
Total	**5.7300**	**0.2697**	**4.4414**	**1.6300e-003**		**0.0419**	**0.0419**		**0.0419**	**0.0419**	**0.0000**	**261.4141**	**261.4141**	**0.0117**	**4.6600e-003**	**263.0950**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	51.7703	1.6586	0.0397	105.0726
Unmitigated	51.7703	1.6586	0.0397	105.0726

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	8.80671 / 5.39766	8.9510	0.2880	6.9000e-003	18.2052
Single Family Housing	38.2454 / 24.1112	39.0889	1.2506	0.0300	79.2802
Strip Mall	3.67029 / 2.24953	3.7304	0.1200	2.8700e-003	7.5872
Total		**51.7703**	**1.6586**	**0.0397**	**105.0726**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	8.80671 / 5.39766	8.9510	0.2880	6.9000e-003	18.2052
Single Family Housing	38.2454 / 24.1112	39.0889	1.2506	0.0300	79.2802
Strip Mall	3.67029 / 2.24953	3.7304	0.1200	2.8700e-003	7.5872
Total		**51.7703**	**1.6586**	**0.0397**	**105.0726**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	142.6113	8.4281	0.0000	353.3135
Unmitigated	142.6113	8.4281	0.0000	353.3135

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	46.08	9.3538	0.5528	0.0000	23.1737
Single Family Housing	604.44	122.6959	7.2511	0.0000	303.9738
Strip Mall	52.03	10.5616	0.6242	0.0000	26.1660
Total		**142.6113**	**8.4281**	**0.0000**	**353.3135**

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	46.08	9.3538	0.5528	0.0000	23.1737
Single Family Housing	604.44	122.6959	7.2511	0.0000	303.9738
Strip Mall	52.03	10.5616	0.6242	0.0000	26.1660
Total		**142.6113**	**8.4281**	**0.0000**	**353.3135**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

```
**AERMOD INPUT FILE CREATED BY HARP VERSION 22118
**DATE CREATED: 1/25/2025 12:58:45 AM
**
CO STARTING
   TITLEONE  MG Construction
   TITLETWO
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL "D:\Extra HDD Files\JK Consulting Group Project Files\2021-2022
-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\MERCED
GATEWAY_AERMOD.ERR"
CO FINISHED
**
**SOURCES
SO STARTING
**SOURCES LOCATIONS
   LOCATION 1 POINT  728158.7  4128746  55.78
   LOCATION 2 VOLUME  728141.7  4128754  55.78
   LOCATION 3 LINE  727951.5  4128728  728158.7  4128728  55.47
   LOCATION 4 LINE  727955.4  4128713  728160  4128713  55.47
**SOURCES PARAMETERS
   SRCPARAM 1 1 3.84 366  50  0.1
   SRCPARAM 2 1 3.05 8.45  6.1
   SRCPARAM 3 0.00172 3.66 2.8 3.66
   SRCPARAM 4 0.00175 0 2.8 3.66
   SRCGROUP 1 1
   SRCGROUP 2 2
   SRCGROUP 3 3
   SRCGROUP 4 4
SO FINISHED
**
**RECEPTORS
RE STARTING
   INCLUDED "D:\Extra HDD Files\JK Consulting Group Project Files\2021-2022
-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\MERCED
GATEWAY_AERMAP.REC"
RE FINISHED
**
**MET PATHWAY
ME STARTING
ME SURFFILE "C:\Users\jella\Downloads\merced-muni-23257\Merced_18-22.SFC"
ME PROFFILE "C:\Users\jella\Downloads\merced-muni-23257\Merced_18-22.PFL"
ME SURFDATA 23257 2018
ME UAIRDATA 23230 2018
ME SITEDATA 0 2018
ME PROFBASE 56.08
ME FINISHED
**
```

```
**OUTPUT PATHWAY
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   PLOTFILE 1 1 1ST "D:\Extra HDD Files\JK Consulting Group Project Files\2021-2022
-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\plt\MAX1HR1.PLT"
31
   PLOTFILE 1 2 1ST "D:\Extra HDD Files\JK Consulting Group Project Files\2021-2022
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32
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33
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34
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-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\plt\PERIOD1.PLT"
35
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-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\plt\PERIOD2.PLT"
36
   PLOTFILE PERIOD 3 "D:\Extra HDD Files\JK Consulting Group Project Files\2021-2022
-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\plt\PERIOD3.PLT"
37
   PLOTFILE PERIOD 4 "D:\Extra HDD Files\JK Consulting Group Project Files\2021-2022
-GS1\Merced Gateway Materials\Air Quality-HRA\HARP2\MERCED GATEWAY\plt\PERIOD4.PLT"
38
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            3 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W200       6       TITLES: Missing Parameter(s). No Options Specified For
 TITLETWO
 ME W186      45       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
 ME W187      45       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
```

```
 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                          ***        01/25/25
 *** AERMET - VERSION  21112 ***   ***
                         ***        00:59:01

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                              ***     MODEL SETUP OPTIONS SUMMARY
 ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  OTHER

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates PERIOD Averages

 **This Run Includes:      4 Source(s);       4 Source Group(s); and       7
Receptor(s)
```

```
                with:      1 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      1 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      2 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  21112

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and
Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    56.08 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   D:\Extra HDD Files\JK Consulting Group Project
Files\2021-2022 -GS1\Merced Gateway Materials\Air
 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                          ***        01/25/25
 *** AERMET - VERSION  21112 ***   ***
                         ***        00:59:01

                                    PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*
```

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR VARY BY	EMIS RATE SCALAR
1	0	0.10000E+01	728158.7	4128746.0	55.8	3.84	366.00	50.00	0.10	NO	NO	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
2	0	0.10000E+01	728141.7	4128754.0	55.8	3.05	8.45	6.10	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** LINE SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC	FIRST COORD X (METERS)	FIRST COORD Y (METERS)	SECOND COORD X (METERS)	SECOND COORD Y (METERS)	BASE ELEV.	RELEASE	WIDTH	INIT.	URBAN	EMISSION RATE

```
HEIGHT    OF LINE    SZ     SOURCE SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS)   (METERS) (METERS) (METERS)
(METERS)  (METERS) (METERS)            BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -

 3                0   0.17200E-02  727951.5 4128728.0  728158.7 4128728.0    55.5
 3.66      2.80     3.66     NO
 4                0   0.17500E-02  727955.4 4128713.0  728160.0 4128713.0    55.5
 0.00      2.80     3.66     NO
 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                         ***        01/25/25
 *** AERMET - VERSION  21112 ***   ***
                        ***        00:59:01

                                   PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*


                                          *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE IDs
 -----------                                                ----------


  1          1          ,

  2          2          ,

  3          3          ,

  4          4          ,
 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                         ***        01/25/25
 *** AERMET - VERSION  21112 ***   ***
                        ***        00:59:01

                                   PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 727677.9, 4129119.0,      55.5,      55.5,       0.0);         ( 727812.1,
4129120.0,      55.5,      55.5,       0.0);
     ( 727963.3, 4129116.0,      55.8,      55.8,       0.0);         ( 728066.2,
4129119.0,      56.0,      56.0,       0.0);
     ( 728165.2, 4129119.0,      56.1,      56.1,       0.0);         ( 728277.2,
4129116.0,      56.4,      56.4,       0.0);
```

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

1 1 1

DATA ***

   Surface file: C:\Users\jella\Downloads\merced-muni-23257\Merced_18-22.SFC
                Met Version: 21112
   Profile file: C:\Users\jella\Downloads\merced-muni-23257\Merced_18-22.PFL

   Surface format: FREE

   Profile format: FREE

   Surface station no.:   23257   Upper air station no.:   23230
                 Name: UNKNOWN   Name: UNKNOWN

                 Year: 2018   Year: 2018

 First 24 hours of scalar data
 YR MO DY JDY HR   H0   U*   W* DT/DZ ZICNV ZIMCH M-O LEN   Z0 BOWEN
ALBEDO REF WS   WD   HT REF TA   HT
- -
- - - - - - - - - - - - - - - - - - - -
 18 01 01   1 01   -6.1 0.099 -9.000 -9.000 -999.   74.   14.3 0.02   0.81
1.00   1.76 296.   10.0 280.9   2.0
 18 01 01   1 02   -8.8 0.127 -9.000 -9.000 -999. 108.   21.0 0.09   0.81
1.00   1.64 334.   10.0 279.2   2.0
 18 01 01   1 03   -2.7 0.068 -9.000 -9.000 -999.   43.   10.4 0.02   0.81
1.00   1.14 305.   10.0 278.8   2.0
 18 01 01   1 04   -2.8 0.069 -9.000 -9.000 -999.   43.   10.3 0.01   0.81
1.00   1.18 211.   10.0 277.5   2.0
 18 01 01   1 05   -5.5 0.093 -9.000 -9.000 -999.   68.   13.2 0.02   0.81
1.00   1.67 246.   10.0 275.9   2.0
 18 01 01   1 06   -1.6 0.058 -9.000 -9.000 -999.   34.   11.4 0.02   0.81
1.00   0.77 241.   10.0 275.9   2.0
 18 01 01   1 07   -3.2 0.072 -9.000 -9.000 -999.   47.   10.7 0.02   0.81
1.00   1.26 258.   10.0 275.9   2.0
 18 01 01   1 08   -4.0 0.085 -9.000 -9.000 -999.   59.   14.0 0.07   0.81
0.69   1.14   87.   10.0 274.2   2.0
 18 01 01   1 09   2.5 0.149 0.104 0.006   17. 138.   -121.6 0.07   0.81
0.37   1.74   71.   10.0 279.9   2.0
 18 01 01   1 10   45.2 0.176 0.571 0.006 150. 178.   -11.0 0.10   0.81
0.27   1.59   58.   10.0 283.1   2.0
 18 01 01   1 11   77.3 0.207 0.989 0.015 455. 227.   -10.5 0.09   0.81
0.23   1.89 355.   10.0 286.4   2.0
 18 01 01   1 12   94.6 0.331 1.123 0.017 544. 457.   -34.8 0.14   0.81
0.21   3.07   8.   10.0 288.1   2.0
 18 01 01   1 13   96.6 0.223 1.184 0.018 623. 259.   -10.4 0.09   0.81
0.21   2.03 338.   10.0 289.9   2.0
 18 01 01   1 14   82.7 0.216 1.165 0.019 692. 242.   -11.1 0.09   0.81
0.22   1.99 338.   10.0 290.4   2.0
 18 01 01   1 15   54.2 0.136 1.026 0.019 721. 122.   -4.2 0.02   0.81
0.26   1.65 326.   10.0 290.9   2.0

```
 18 01 01   1 16   13.3  0.152  0.644  0.019  724.  142.    -23.9  0.02   0.81
0.35    2.18  252.   10.0  290.4    2.0
 18 01 01   1 17   -7.9  0.118 -9.000 -9.000 -999.   97.     18.5  0.02   0.81
0.60    2.06  278.   10.0  288.1    2.0
 18 01 01   1 18   -6.3  0.101 -9.000 -9.000 -999.   77.     14.7  0.02   0.81
1.00    1.79  276.   10.0  285.9    2.0
 18 01 01   1 19   -5.1  0.090 -9.000 -9.000 -999.   65.     13.0  0.02   0.81
1.00    1.62  246.   10.0  283.8    2.0
 18 01 01   1 20   -1.9  0.061 -9.000 -9.000 -999.   36.     10.5  0.01   0.81
1.00    0.92  152.   10.0  280.9    2.0
 18 01 01   1 21   -7.3  0.111 -9.000 -9.000 -999.   89.     17.1  0.04   0.81
1.00    1.74  111.   10.0  279.9    2.0
 18 01 01   1 22   -5.9  0.102 -9.000 -9.000 -999.   79.     16.6  0.07   0.81
1.00    1.40   74.   10.0  281.4    2.0
 18 01 01   1 23   -5.0  0.088 -9.000 -9.000 -999.   63.     12.5  0.01   0.81
1.00    1.64  122.   10.0  280.9    2.0
 18 01 01   1 24   -7.1  0.113 -9.000 -9.000 -999.   91.     18.4  0.07   0.81
1.00    1.54   86.   10.0  279.9    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 18 01 01 01   10.0 1  296.    1.76   281.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                          ***       01/25/25
 *** AERMET - VERSION  21112 ***   ***
                         ***       00:59:01

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                *** THE PERIOD ( 43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: 1         ***
                                   INCLUDING SOURCE(S):     1           ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF OTHER    IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         727677.90    4129119.00        3.93879                       727812.10
4129120.00        3.57910
         727963.30    4129116.00        2.80281                       728066.20
```

4129119.00   2.30454
         728165.20   4129119.00   1.80188   728277.20
4129116.00   1.53272
         727977.60   4128247.00   1.56183

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

                                *** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: 2   ***
                                    INCLUDING SOURCE(S):   2   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                              ** CONC OF OTHER   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
727677.90	4129119.00	7.79485	727812.10	4129120.00	7.69288
727963.30	4129116.00	7.14342	728066.20	4129119.00	6.07470
728165.20	4129119.00	5.18759	728277.20	4129116.00	4.68580
727977.60	4128247.00	3.81832			

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4 ***
INCLUDING SOURCE(S): 4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
727677.90	4129119.00	7.31847	727812.10	4129120.00	7.24273
727963.30	4129116.00	6.81846	728066.20	4129119.00	5.79538
728165.20	4129119.00	4.90445	728277.20	4129116.00	4.39378
727977.60	4128247.00	3.82523			

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
727677.90	4129119.00	189.15182	(22122509)	727812.10	4129120.00	207.51933	(20090604)
727963.30	4129116.00	225.70457	(22010517)	728066.20	4129119.00	262.17864	(18032718)
728165.20	4129119.00	270.08610	(19041607)	728277.20	4129116.00	228.13033	(21122220)
727977.60	4128247.00	177.76650	(22022419)				

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
727677.90	4129119.00	503.58344	(21022308)	727812.10	4129120.00	619.57484	(21021908)
727963.30	4129116.00	788.18906	(20021208)	728066.20			

4129119.00   841.25691 (20121517)
        728165.20   4129119.00   840.40483 (19012101)   728277.20
4129116.00   788.14950 (21121722)
        727977.60   4128247.00   512.78913 (22021208)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: 3   ***
                                    INCLUDING SOURCE(S):   3   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF OTHER   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
727677.90	4129119.00	725.52454	(19060906)	727812.10	4129120.00	744.76619	(18040307)
727963.30	4129116.00	677.27315	(18091107)	728066.20	4129119.00	673.76995	(19112208)
728165.20	4129119.00	592.21025	(21011207)	728277.20	4129116.00	669.12981	(20092307)
727977.60	4128247.00	524.06208	(22012321)				

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
1	1ST HIGHEST VALUE IS	3.93879 AT (727677.90, 4129119.00, 55.47, 55.47, 0.00)	DC	
	2ND HIGHEST VALUE IS	3.57910 AT (727812.10, 4129120.00, 55.47, 55.47, 0.00)	DC	
	3RD HIGHEST VALUE IS	2.80281 AT (727963.30, 4129116.00, 55.78, 55.78, 0.00)	DC	
	4TH HIGHEST VALUE IS	2.30454 AT (728066.20, 4129119.00, 56.02, 56.02, 0.00)	DC	
	5TH HIGHEST VALUE IS	1.80188 AT (728165.20, 4129119.00, 56.08, 56.08, 0.00)	DC	
	6TH HIGHEST VALUE IS	1.56183 AT (727977.60, 4128247.00, 54.86, 54.86, 0.00)	DC	
	7TH HIGHEST VALUE IS	1.53272 AT (728277.20, 4129116.00, 56.39,		

```
   56.39,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)

2         1ST HIGHEST VALUE IS       8.54181 AT (  727963.30,  4129116.00,    55.78,
   55.78,    0.00)  DC
          2ND HIGHEST VALUE IS       8.36038 AT (  727812.10,  4129120.00,    55.47,
   55.47,    0.00)  DC
          3RD HIGHEST VALUE IS       8.03235 AT (  728066.20,  4129119.00,    56.02,
   56.02,    0.00)  DC
          4TH HIGHEST VALUE IS       7.88324 AT (  727677.90,  4129119.00,    55.47,
   55.47,    0.00)  DC
          5TH HIGHEST VALUE IS       6.95112 AT (  728165.20,  4129119.00,    56.08,
   56.08,    0.00)  DC
          6TH HIGHEST VALUE IS       5.77112 AT (  728277.20,  4129116.00,    56.39,
   56.39,    0.00)  DC
          7TH HIGHEST VALUE IS       2.89733 AT (  727977.60,  4128247.00,    54.86,
   54.86,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)

3         1ST HIGHEST VALUE IS       7.79485 AT (  727677.90,  4129119.00,    55.47,
   55.47,    0.00)  DC
          2ND HIGHEST VALUE IS       7.69288 AT (  727812.10,  4129120.00,    55.47,
   55.47,    0.00)  DC
          3RD HIGHEST VALUE IS       7.14342 AT (  727963.30,  4129116.00,    55.78,
   55.78,    0.00)  DC
          4TH HIGHEST VALUE IS       6.07470 AT (  728066.20,  4129119.00,    56.02,
   56.02,    0.00)  DC
          5TH HIGHEST VALUE IS       5.18759 AT (  728165.20,  4129119.00,    56.08,
   56.08,    0.00)  DC
          6TH HIGHEST VALUE IS       4.68580 AT (  728277.20,  4129116.00,    56.39,
   56.39,    0.00)  DC
          7TH HIGHEST VALUE IS       3.81832 AT (  727977.60,  4128247.00,    54.86,
   54.86,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
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4         1ST HIGHEST VALUE IS       7.31847 AT (  727677.90,  4129119.00,    55.47,
   55.47,    0.00)  DC
          2ND HIGHEST VALUE IS       7.24273 AT (  727812.10,  4129120.00,    55.47,
   55.47,    0.00)  DC
          3RD HIGHEST VALUE IS       6.81846 AT (  727963.30,  4129116.00,    55.78,
   55.78,    0.00)  DC
          4TH HIGHEST VALUE IS       5.79538 AT (  728066.20,  4129119.00,    56.02,
   56.02,    0.00)  DC
          5TH HIGHEST VALUE IS       4.90445 AT (  728165.20,  4129119.00,    56.08,
   56.08,    0.00)  DC
          6TH HIGHEST VALUE IS       4.39378 AT (  728277.20,  4129116.00,    56.39,
   56.39,    0.00)  DC
          7TH HIGHEST VALUE IS       3.82523 AT (  727977.60,  4128247.00,    54.86,
   54.86,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,
    0.00,    0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                         ***        01/25/25
 *** AERMET - VERSION  21112 ***   ***
                         ***        00:59:01

                                   PAGE  18
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                    ** CONC OF OTHER    IN MICROGRAMS/M**3
              **

                                                        DATE
                                          NETWORK
GROUP ID                            AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

1         HIGH   1ST HIGH VALUE IS     270.08610  ON 19041607: AT (  728165.20,
4129119.00,    56.08,    56.08,    0.00)  DC
```

```
2        HIGH   1ST HIGH VALUE IS     841.25691  ON 20121517: AT (  728066.20,
4129119.00,    56.02,    56.02,    0.00)  DC

3        HIGH   1ST HIGH VALUE IS     703.13622  ON 18040307: AT (  727812.10,
4129120.00,    55.47,    55.47,    0.00)  DC

4        HIGH   1ST HIGH VALUE IS     744.76619  ON 18040307: AT (  727812.10,
4129120.00,    55.47,    55.47,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 21112  ***   ***  MG Construction
                        ***        01/25/25
 *** AERMET - VERSION  21112 ***   ***
                        ***       00:59:01

                                  PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            3 Warning Message(s)
 A Total of         1280 Informational Message(s)

 A Total of        43824 Hours Were Processed

 A Total of          592 Calm Hours Identified

 A Total of          688 Missing Hours Identified (  1.57 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W200       6       TITLES: Missing Parameter(s). No Options Specified For
 TITLETWO
 ME W186      45       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
 ME W187      45       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
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**********************************
*** AERMOD Finishes Successfully ***
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APPENDIX B
BIOLOGICAL EVALUATION

BIOLOGICAL EVALUATION
MERCED GATREWAY
MERCED COUNTY, CALIFORNIA

Prepared by:

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September 26, 2024 PN 2901-01

EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) investigated the biological resources of an approximately 73.7-acre site proposed for residential and commercial development ("project") and evaluated potential project-related impacts to such resources pursuant to the California Environmental Quality Act (CEQA). The site is located at the southeast edge of the City of Merced in Merced County, California.

LOA's analysis was based on a reconnaissance-level field survey conducted on August 19, 2024. At that time, the site consisted of a harvested oat field, a ruderal field, and two irrigation ditches. Vegetation spanned the entirety of the site but was densest at the edges of the oat field and in the ruderal field. Vegetation primarily consisted of oat and weedy forbs.

The project site has the potential to be used for nesting by various avian species protected by state and federal laws including the northern harrier, a California Species of Special Concern. The Swainson's hawk, a California Threatened species, could nest in trees in close proximity to the project site and forage on site. By limiting construction to lower-risk times of year if feasible, conducting preconstruction surveys for nesting birds and raptors, and avoiding any active nests that are discovered, potential project impacts to nesting birds and raptors can be reduced to a less than significant level under CEQA.

No other biological resources would be significantly impacted by project implementation. Impacts are considered less than significant for all regionally occurring special status plant species, 20 of the 22 regionally-occurring special status animal species, wildlife movement corridors, sensitive natural communities, jurisdictional waters, and designated critical habitat. The project appears to be consistent with the Merced Vision 2030 General Plan policies related to biological resources and is currently not subject to any Habitat Conservation Plans or Natural Community Conservation Plans.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 PROJECT DESCRIPTION 1
1.2 REPORT OBJECTIVES 1
1.3 STUDY METHODOLOGY 5
2.0 EXISTING CONDITIONS 6
2.1 REGIONAL SETTING 6
2.2 PROJECT SITE 6
2.3 LAND USES / BIOTIC HABITATS 7
2.3.1 Agricultural 7
2.3.2 Ruderal Field 10
2.4 SPECIAL STATUS PLANTS AND ANIMALS 10
2.5 JURISDICTIONAL WATERS 19
2.6 SENSITIVE NATURAL COMMUNITIES 20
2.7 WILDLIFE MOVEMENT CORRIDORS 21
2.8 DESIGNATED CRITICAL HABITAT 21
3.0 RELEVANT GOALS, POLICIES, AND LAWS 22
3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT 22
3.2 OTHER RELEVANT LAWS AND POLICIES 23
3.2.1 Merced Vision 2030 General Plan 23
3.2.2 Threatened and Endangered Species 24
3.2.3 Migratory Birds 24
3.2.4 Birds of Prey 25
3.2.5 Nesting Birds 25
3.2.6 Habitat Conservation Plans and Natural Community Conservation Plans 25
3.2.7 Wetlands and Other Jurisdictional Waters 26
4.0 IMPACTS AND MITIGATIONS 29
4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION 29
4.1.1 Potential Project Impacts to Nesting Birds and Raptors Including Northern Harrier and Swainson's Hawk 29
4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS 30
4.2.1 Potential Project Impacts to Special Status Plants 30
4.2.2 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the Project Site 30
4.2.3 Project Impacts to Special Status Animal Species that Would Use the Site for Non-sensitive Activities Only 31
4.2.4 Project Impacts to Wildlife Movement Corridors 32
4.2.5 Project Impacts to Sensitive Natural Communities and Critical Habitat 32
4.2.6 Project Impacts to Jurisdictional Waters 32
4.2.7 Consistency with Local Policies and Ordinances 32
4.2.8 Consistency with Habitat Conservation Plans and Natural Community Conservation Plans 33
APPENDIX A: VASCULAR PLANT LIST 35
APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE 38
APPENDIX C: REPRESENTATIVE PHOTOS OF THE PROJECT SITE 42

1.0 INTRODUCTION

This technical report, prepared by Live Oak Associates, Inc. (LOA) in support of California Environmental Quality Act (CEQA) review, describes the biological resources of an approximately 73.7-acre site ("project site") proposed for residential and commercial development ("project"), and evaluates the potential impacts to biological resources associated with project implementation. The project site is located on the southeast edge of the city limits of Merced, California, between East Mission Avenue and East Gerard Avenue and approximately 0.25 miles east of South Coffee Street. It is bisected by Campus Parkway (Figure 1). It may be found on the *Merced* U.S. Geological Survey (USGS) 7.5-minute quadrangle, in the southern edge of Section 34 of Township 7 South, Range 14 East, Mount Diablo Base and Meridian (Figure 2).

1.1 PROJECT DESCRIPTION

Lennar Central Valley proposes a mixed-use development, referred to as "Merced Gateway." The proposed development consists of 587 residential lots, 2 commercial lots with associated infrastructure such as roads and sidewalks, and a park across 73.7acres. The residential lots consist of 129 45'x85' lots, 201 40'x70' lots, and 257 25'x95' lots for a total of 587 residential lots encompassing approximately 61-acres. The two commercial lots are approximately 4.4 and 4.5-acres respectively, for a total of approximately 9-acres. The park is approximately 3.7-acres. Campus Parkway bisects the project site into north and south halves and will not be impacted by project development. The abandoned irrigation ditch running east to west in the northern portion of the site will be filled in and the irrigation ditch along the eastern boundary, south of Campus Parkway, will not be impacted by the project.

1.2 REPORT OBJECTIVES

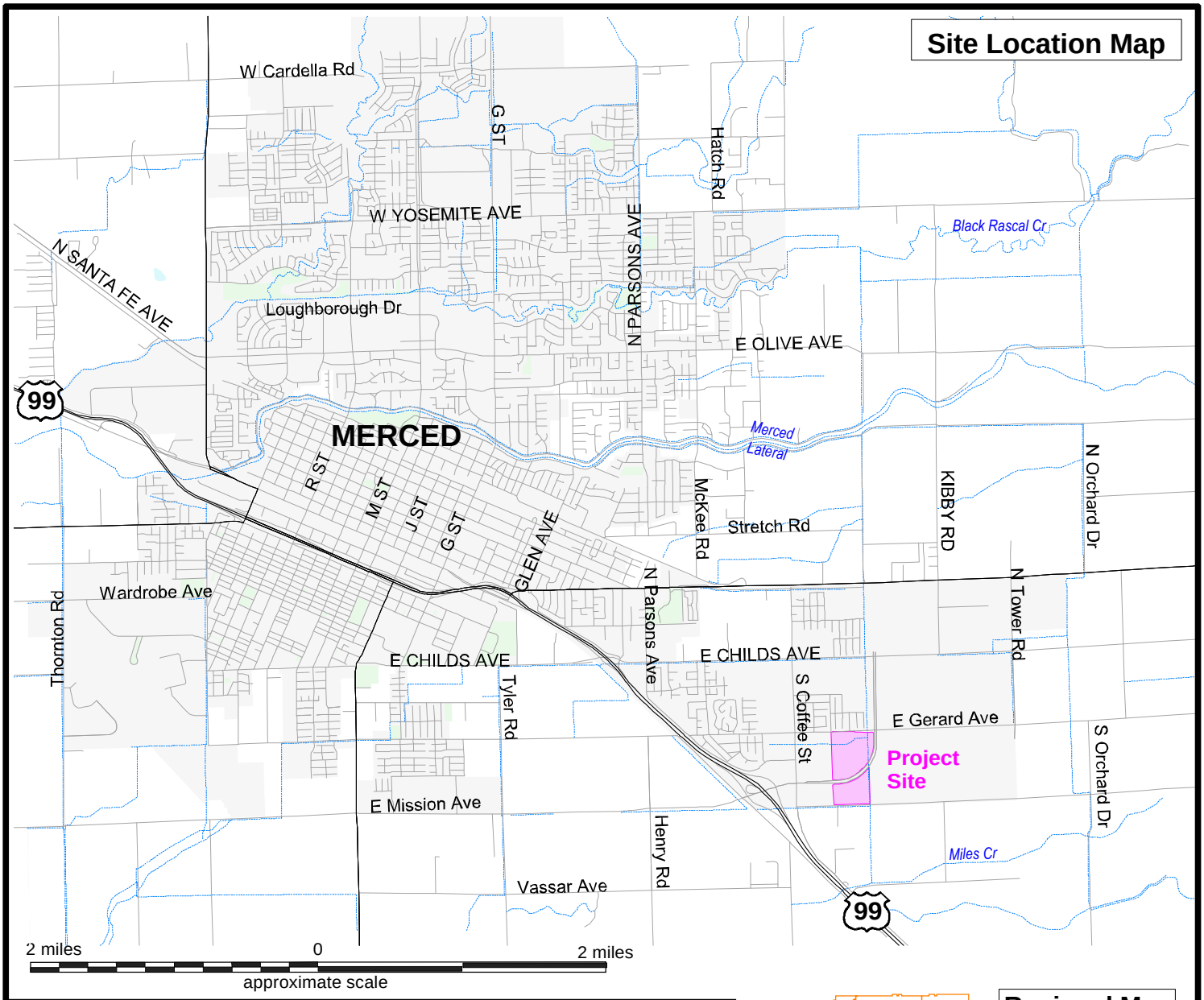
This report summarizes a biological study conducted by LOA to facilitate environmental review pursuant to CEQA. As such, the report's objectives are to:

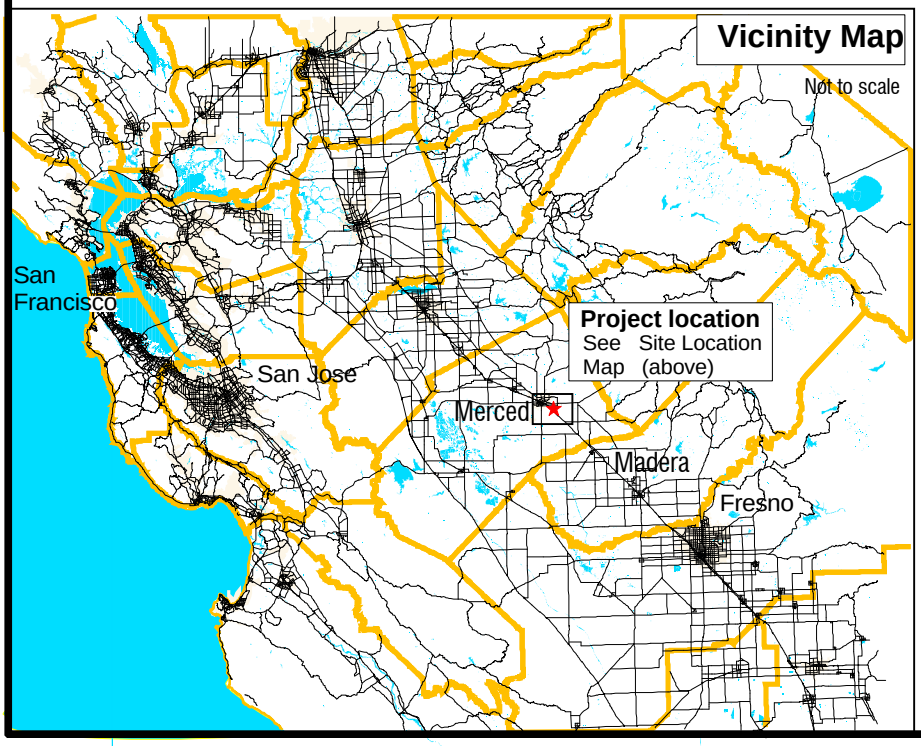
- Characterize the project site's existing biological resources, including biotic habitats, flora and fauna, soils, and aquatic resources
- Evaluate the project site's potential to support sensitive resources such as special status species, sensitive natural communities, and jurisdictional waters and wetlands

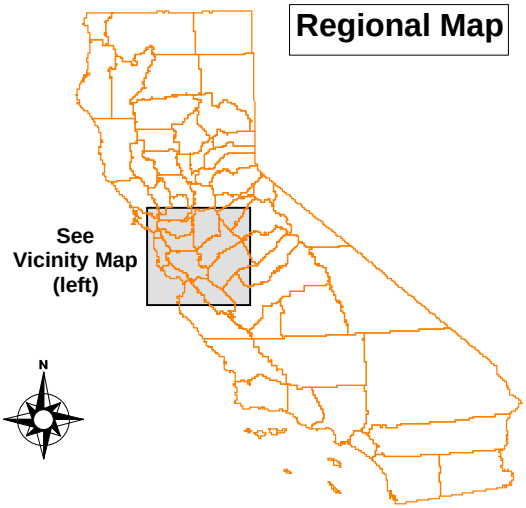
- Summarize all state and federal natural resource protection laws that may be relevant to project implementation

- Identify and discuss potential project-related impacts to biological resources within the context of CEQA and other state and federal laws

- Identify avoidance and mitigation measures that would reduce the magnitude of project-related impacts in a manner consistent with CEQA and species-specific guidelines





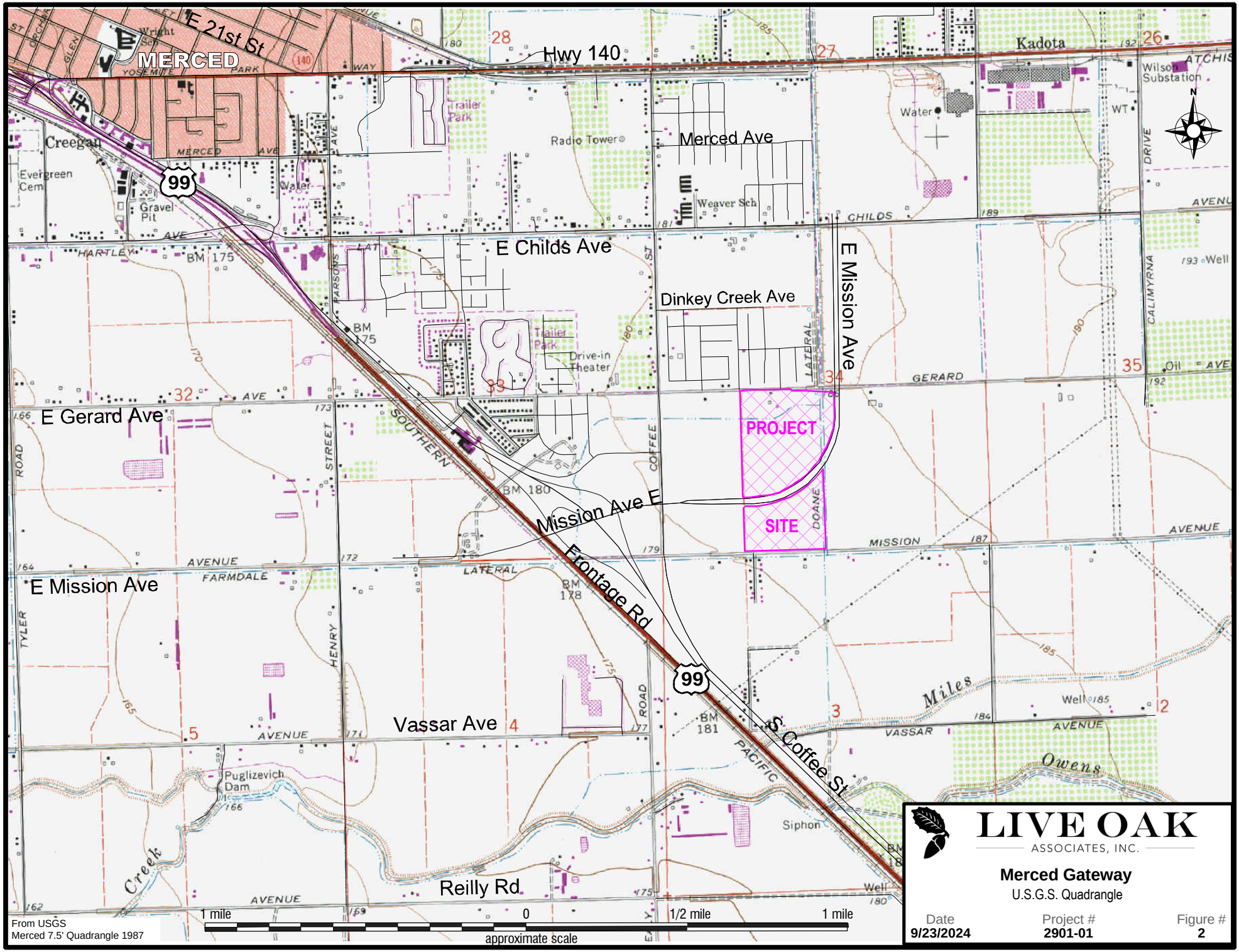


LIVE OAK ASSOCIATES, INC.

Merced Gateway

Site Vicinity Map

Date	Project #	Figure #
9/23/2024	**2901-01**	**1**



From USGS
Merced 7.5' Quadrangle 1987

LIVE OAK
ASSOCIATES, INC.

Merced Gateway
U.S.G.S. Quadrangle

Date	Project #	Figure #
9/23/2024	**2901-01**	**2**

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site was conducted on August 19, 2024 by LOA ecologist Natalie Neff. The survey consisted of walking around and through the project site while identifying its principal land uses, biotic habitats, flora, and fauna, and assessing its potential to support special status species and other sensitive resources. The survey did not include a formal aquatic resources delineation or focused surveys for special status species. The survey was sufficient to assess the significance of possible biological impacts associated with project implementation, and to assess the need for more detailed studies that could be warranted if sensitive resources were identified in this initial survey.

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project site. Sources of information used in the preparation of this analysis included the *California Natural Diversity Data Base* (CDFW 2024), *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2024), and manuals, reports, and references related to plants and animals of the project vicinity.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in the San Joaquin Valley of California, approximately 20 miles west of the base of the Sierra Nevada foothills. The San Joaquin Valley is bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coastal ranges to the west, and the Sacramento-San Joaquin Delta to the north.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation in the project vicinity varies considerably from year to year, but averages approximately 11 inches, almost all of which falls between the months of October and March. Nearly all precipitation falls in the form of rain.

The project site is located approximately 0.75 miles north of Owens Creek and approximately 2 miles south of Bear Creek.

The site is located at the interface of urban and agricultural land uses. It is bordered to the north by a residential area, to the east and west by agriculture, and to the south by agriculture and residential areas.

2.2 PROJECT SITE

The project site has level topography and sits at an elevation of approximately 184 feet above sea level. At the time of LOA's field survey, it consisted primarily of a harvested oat field, but also contained a ruderal field and two irrigation ditches.

The site contains two soil mapping units: Landlow silty clay loam, 0 to 1 percent slopes; and Wyman clay loam, deep over hardpan, 0 to 1 percent slopes (NRCS 2024). These soils are not classified as hydric, meaning they do not have the propensity to pond water and support the growth of wetland vegetation.

2.3 LAND USES / BIOTIC HABITATS

Two biotic habitats / land uses were identified within the project site: agricultural and ruderal field. An aerial view of the site is presented in Figure 3. A list of vascular plants identified on the site is presented in Appendix A. A list of terrestrial vertebrates using or potentially using the project site is presented in Appendix B. Representative photos of the site are presented in Appendix C.

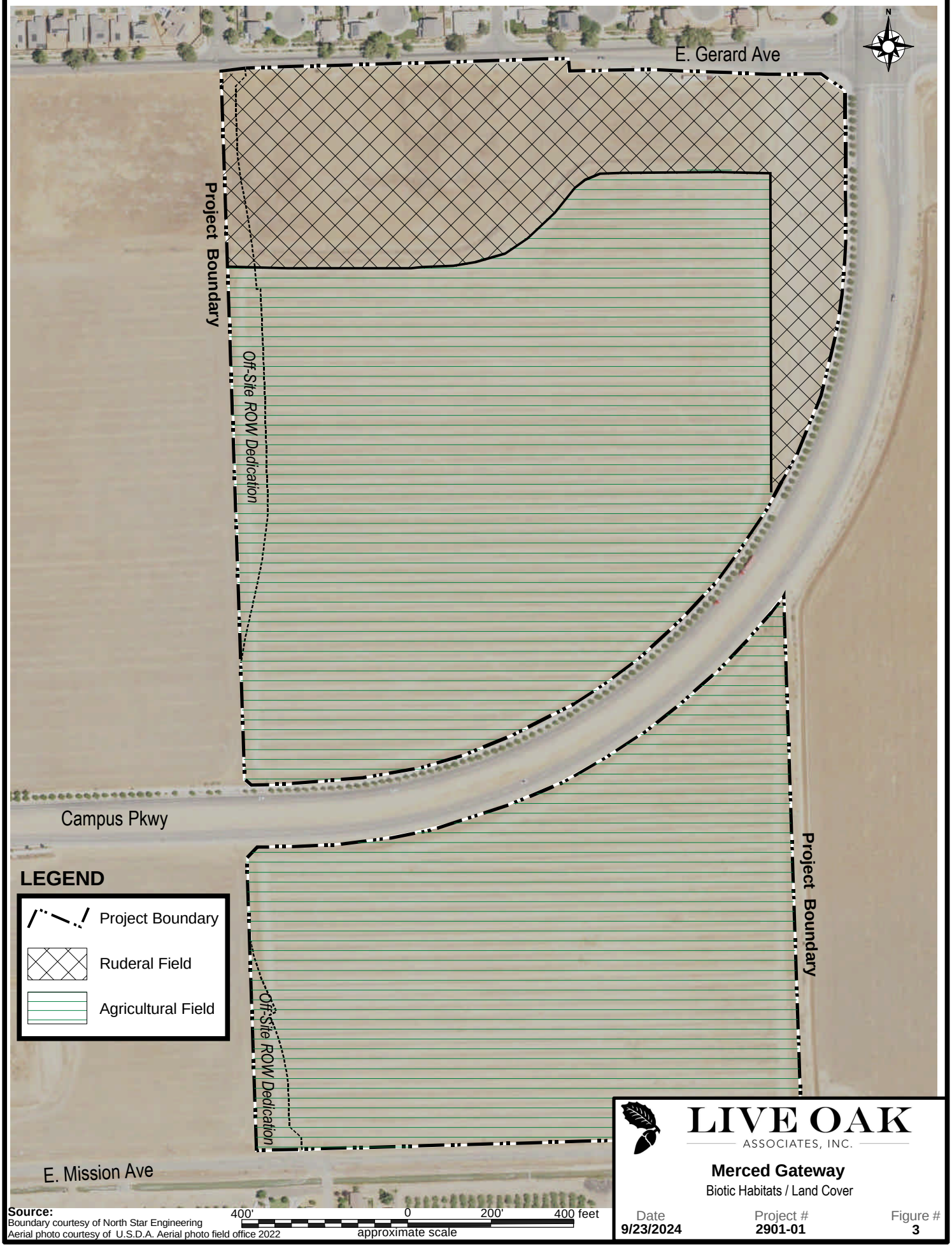
2.3.1 Agricultural

At the time of LOA's field survey, the majority of the project site consisted of a harvested oat field bisected into north and south sections by Campus Parkway, with an irrigation ditch running along the eastern margin of the oat field south of Campus Parkway. Analysis of aerial imagery indicates that the field has been used for agricultural purposes since at least 1946 (historicalaerials.com 2024). The irrigation ditch was dry at the time of the survey but is sporadically inundated in Google Earth aerial imagery.

Both the oat field and irrigation ditch supported a variety of weedy and native forbs. The margins of the field hosted the greatest diversity of plant life, though the fields center also contained an assortment of plant species as well. Oat (*Avena sativa*), milk thistle (*Silybum marianum*), Russian thistle (*Salsola tragus*), and jimsonweed (*Datura wrightii*) were most common along the field margins and irrigation ditch, while oat, narrowleaf milkweed (*Asclepias fascicularis*), panicle willowherb (*Epilobium brachycarpum*), and prickly lettuce (*Latuca serriola*) were most common throughout the center of the field.

The project site's agricultural land provides some habitat for common wildlife species. Common amphibians such as the western toad (*Bufo boreas*) and Sierran treefrog (*Pseudacris sierra*) may breed in nearby ditches or basins and subsequently disperse across the oat field. Aerial imagery indicates that the on-site ditches are infrequently inundated and may not, themselves, support amphibian breeding. Reptiles such as side-blotched lizards (*Uta stansburiana*), Pacific gopher snakes (*Pituophis catenifer catenifer*), and California king snakes (*Lampropeltis californiae*) could occur on or pass through the site's oat field from time to time. Common avian species are expected to utilize the oat field for foraging including American crow (*Corvus brachyrhynchos*), western meadowlark (*Sturnella neglecta*), western kingbird (*Tyrannus verticalis*), and northern

mockingbird (*Mimus polyglottos*). Raptors such as red-tailed hawks (*Buteo jamaicensis*) and American kestrels (*Falco sparverius*) are likely to forage over the oat field as well. Ground nesting birds such as mourning doves (*Zenaida macroura*) could nest in the field.



LIVE OAK ASSOCIATES, INC.

Merced Gateway

Biotic Habitats / Land Cover

Date	Project #	Figure #
9/23/2024	**2901-01**	**3**

Small mammal use of the site's agricultural land may include deer mice (*Peromyscus maniculatus*), California voles (*Microtus californicus*), Botta's pocket gophers (*Thomomys bottae*), and California ground squirrels (*Otospermophilus beecheyi*). Several Botta's pocket gopher and numerous California ground squirrel burrows were observed in the oat field, specifically within the portion south of Campus Parkway.

Mid-tier predatory mammal species that may forage or pass through the site's agricultural land include raccoon (*Procyon lotor*), western striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), red fox (*Vulpes vulpes*) and coyote (*Canis latrans*). Various bat species may forage over the site's agricultural land for insects. Due to the proximity of residences, domestic dogs (*Canis familiaris*) and cats (*Felis catus*) may also occur here from time to time.

2.3.2 Ruderal Field

The northern and northeastern edges of the project site can be categorized as ruderal field. At the time of LOA's survey, the northernmost portion of ruderal field was densely covered in vegetation including milk thistle, oat, prickly lettuce, Russian thistle, and flax-leaved horseweed (*Erigeron bonariensis*). A young, shrubby California black walnut tree (*Juglans hindsii*) was found in this portion of the ruderal field as well. This portion of the ruderal field was separated from the oat field by an irrigation ditch on the north side of the oat field, which that was dry at the time of the survey and does not appear to be inundated in any recent Google Earth aerial images. Vegetative cover in the ditch was indistinguishable from the surrounding ruderal field and at the time of the survey was dominated by oat and Russian thistle. The northeast portion of the ruderal field was less densely vegetated but contained many similar species to the northernmost section including oat, prickly lettuce, Russian thistle, and flax-leaved horseweed.

Wildlife use of the site's ruderal field would be similar to that described for the agricultural land.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have

provided CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own ranking system, California Rare Plant Ranks (CRPR), for native plants considered rare, threatened, or endangered. Plants with a CRPR ranking of 1 or 2 meet the definitions of the California Endangered Species Act and are eligible for state listing. Collectively, all of the aforementioned plants and animals are referred to as "special status species."

The California Natural Diversity Data Base (CNDDB) (CDFW 2024) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site (*Winton, Yosemite Lake, Haystack Mtn., Atwater, Merced, Planada, Sandy Mush, El Nido, Plainsburg*). These species, and their potential to occur on site, are listed in Table 1 on the following pages. Sources of information for Table 1 included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012), CNPS's *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2024), Calflora.org, and eBird.org.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Succulent Owl's-Clover (*Castilleja campestris* ssp. *succulenta*)	FT, CE CRPR 1B.2	Occurs in vernal pools of the Central Valley that are often acidic; blooms April-May; elevation 160-2460 ft.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Delta Button Celery (*Eryngium racemosum*)	CE, CRPR 1B.1	Found in seasonally flooded clay depressions in floodplains at elevations between 10- 100 feet. Blooms June – October.	**Absent.** Decades of agricultural disturbance have eliminated any habitat that may have once been present on site or in the immediate vicinity. In addition, the project site is outside of the species elevational range.
Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*)	CE CRPR 1B.2	Inhabits the Central Valley, inner north coast range, and Sierra Nevada foothills. The largest concentration is located within the Modoc Plateau. Restricted to clay soils in or near shallow water such as lake edges and vernal pools. Elevation below 5250 feet. Blooms April- August.	**Absent.** Suitable habitat in the form of vernal pools and/or lake edges is absent from the project site.
Colusa Grass *(Neostapfia colusana)*	FT, CE, CRPR 1B.1	Typically found in alkaline basins of Sacramento and San Joaquin Valleys and in acidic soils along the eastern San Joaquin Valley and the Sierra Nevada foothills.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
San Joaquin Valley Orcutt Grass (*Orcuttia inaequalis*)	FT, CE CRPR 1B.1	Occurs in vernal pools of the Central Valley; requires deep pools with prolonged periods of inundation; blooms April-September; elevation 100-2,480 ft.	**Absent.** Vernal pool habitat is absent from the project site.
Hairy Orcutt Grass (*Orcuttia pilosa*)	FE, CE	Vernal pools of California's Central Valley. Requires deep pools with prolonged periods of inundation; blooms May to September.	**Absent.** Vernal pool habitat is absent from the project site.
Hartweg's Golden Sunburst (*Pseudobahia bahiifolia*)	FE, CE CRPR 1B.1	Found in heavy clay soils in open woodlands and non-native grasslands. The current known distribution of this species occurs along the eastern side of the San Joaquin Valley and lower central Sierra Nevada foothills. Elevation between 330- 650 feet. Blooms March- April.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity. In addition, the project site is outside of the species elevational range.
Merced Phacelia *(Phacelia ciliate var. opaca)*	CRPR 3.2	Restricted to heavy clay soils on the San Joaquin Valley floor and adjacent hills at elevations below 330 feet.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Keck's Checkerbloom (*Sidalcea keckii*)	FE, CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grassland habitat with serpentine and/or clay soils between 525 and 2,230 ft. in elevation. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site and the site is outside the species elevational range.
Greene's Tuctoria (*Tuctoria greenei*)	FE, CR, CRPR 1B.1	Occurs in vernal pools of California's Central Valley from Shasta Co. on the north to Tulare Co. on the south; blooms May to September.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS-Listed Species

Species	Status	Habitat	Occurrence on the Project Site
Henderson's Bent Grass (*Agrostis hendersonii*)	CRPR 3.2	Found in vernal pools at elevations under 984 feet in north and central San Joaquin Valley. Blooms April-June.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CRPR 1B.2	Occurs on saline or alkaline soils in chenopod scrub, meadows, seeps, and grasslands; blooms April-October; elevations below 1,230 ft.	**Absent.** Suitable soils and habitat are absent from the project site.
Lesser Saltscale (*Atriplex minuscula*)	CRPR 1B.1	Occurs in cismontane woodland and valley and foothill grasslands of the San Joaquin Valley; alkaline/sandy soils; blooms May-October; elevation 50-660 ft.	**Absent.** Suitable soils and habitat are absent from the project site.
Vernal Pool Smallscale (*Atriplex persistens*)	CRPR 1B.2	Occurs in alkaline vernal pools; blooms July-Oct.; elevations below 400 ft.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Subtle Orache (*Atriplex subtilis*)	CRPR 1B.2	Occurs in valley and foothill grasslands of the San Joaquin Valley; blooms August-October; elevation 130-330 ft.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Watershield (*Brasenia schreberi*)	CRPR 2B.3	An aquatic, perennial herb with floating leaves that grows in ponds, lakes, and slow-moving streams.	**Absent.** The project site's irrigation ditches do not have a sufficient inundation regime for this species.
Hoover's Calycadenia (*Calycadenia hooveri*)	CRPR 1B.3	Found in rocky soils, frequently of the Hornitos series, in Calaveras, Madera, Mariposa, and Stanislaus Counties.	**Absent.** Suitable soils and habitat are absent from the project site.
Beaked Clarkia (*Clarkia rostrata*)	CRPR 1B.3	This species occurs in the woodlands of the Sierra Nevada Forest near the Merced River. Elevations up to 1,640 feet. Blooms April- May.	**Absent.** Suitable habitat is absent from the project site.
Recurved Larkspur (*Delphinium recurvatum*)	CRPR 1B.2	Chenopod scrub, cismontane woodlands, and alkaline soils of valley and foothill grasslands. Blooms March-May.	**Absent.** Suitable soils and habitat are absent from the project site.
Dwarf Downingia (*Downingia pusilla*)	CRPR 2B.2	Grows in vernal pools and other seasonal wetlands. Blooms March – May.	**Unlikely.** Suitable habitat in the form of vernal pools and other seasonal wetlands is absent from the project site.
Spiny-Sepaled Button Celery (*Eryngium spinosepalum*)	CRPR 1B.2	Found in vernal pools, swales and valley and foothill grasslands at the eastern edge of the San Joaquin Valley and in the Tulare Basin; elevation between 330 and 840 ft. Blooms April to May	**Absent.** Suitable habitat in the form of vernal pools and swales is absent from the project site. Furthermore, the project site is outside of this species' elevational range.
Forked Hare-Leaf (Lagophylla dichotoma)	CRPR 1B.1	Occurs in openings in woodlands or grasslands at elevations between 164 feet to 1312 feet. Flowers April and May.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS-Listed Species

Species	Status	Habitat	Occurrence on the Project Site
Alkali-Sink Goldfields (*Lasthenia chrysantha*)	CRPR 1B.1	Occurs in valley grassland, alkali sink, wetland riparian areas less than 328 ft. in elevation in the southern Sacramento Valley and San Joaquin Valley. Blooms February – June.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Pincushion Navarretia (*Navarretia myersii spp. myersii*)	CRPR 1B.1	Occurs in vernal pools in the Central Valley, particularly on the eastern edge. Elevations 66 to 295 feet. Blooms in May.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Shining Navarretia (*Navarretia nigelliformis* ssp. *radians*)	CRPR1B. 2	Occurs in Valley grassland, foothill woodland, freshwater-wetlands, and wetland-riparian between 525 and 1770 ft. in elevation. Blooms April-July.	**Absent.** Suitable habitat is absent, and the project site is outside of this species' elevational range.
California Alkali-Grass (*Puccinellia simplex*)	CRPR 1B.2	Occurs in saline flats and mineral springs less than 900 m. in elevation in the Central Valley, San Francisco Bay area and western Mojave Desert.	**Absent.** Decades of agricultural disturbance has eliminated any habitat that may have once been present on site or in the immediate vicinity.
Sanford's Arrowhead (*Sagittaria sanfordii*)	CRPR 1B.2	Occurs in freshwater emergent marsh habitats in drainage ditches and canals of California's Central Valley. Blooms May to October.	**Unlikely.** The project site's irrigation ditches do not appear to have a sufficient inundation regime for this species.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Crotch Bumblebee (*Bombus crotchii*)	CCE	Once common in the Central Valley, this species is now absent from most of it, particularly in the central portion of its historic range. Where present, it is associated with open grassland and scrub habitats, where it relies on food plants of the *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera (Williams et al. 2014).	**Unlikely.** While the project site contains some potential foraging resources for the Crotch bumblebee, it is situated in a matrix of intensive agricultural, residential, and commercial uses incompatible with this species' ecology. Moreover, the Crotch bumble bee is thought to be nearly extirpated from the valley floor (CDFW 2019). For these reasons, it is unlikely to occur on site.
Conservancy Fairy Shrimp (*Branchinecta conservatio*)	FE	Occurs in large, turbid vernal pools in grasslands of the northern two-thirds of the Central Valley.	**Absent**. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT	Primarily found in vernal pools of California's Central Valley.	**Absent**. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)	FE	Primarily found in vernal pools but may use other seasonal wetlands in mesic valley and foothill grasslands.	**Absent**. Suitable habitat in the form of vernal pools is absent from the site and immediately surrounding lands.
Steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*)	FT, CSC	This slender-bodied fish is endemic to the San Francisco Bay and Sacramento-San Joaquin Delta upstream through Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	**Absent**. Suitable habitat in the form of streams is absent from the project site.
California Tiger Salamander (*Ambystoma californiense pop. 1*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. Although most CTS aestivate within 0.4 mile of their breeding pond, outliers may aestivate up to 1.3 miles away (Orloff 2011).	**Absent.** The project site and surrounding areas have experienced decades of agricultural disturbance and urban development, eliminating any potential habitat that may have once existed on and within the vicinity of the project site. The closest CNDDB occurrence is from 1999 and lies approximately 4.5 miles southwest of the project site across California State Route 99 (CDFW 2024).
Western Spadefoot (*Spea hammondii*)	FPT, CSC	Occurs in grasslands of San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a mean maximum distance of around 230 feet between breeding and aestivation sites, with an overall maximum of 890 feet.	**Absent.** Suitable breeding habitat is absent from the site and surrounding lands and there are no CNDDB occurrences within the vicinity of the project site (CDFW 2024).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Northwestern Pond Turtle (*Actinemys marmorata*)	FPT, CSC	Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires partially submerged rocks or logs or sandy banks for basking sites. Nesting takes place in open areas, on a variety of soil types, and up to ¼ mile away from water.	**Unlikely.** The project site's irrigation ditches do not have a sufficient inundation regime for this species. An irrigation canal lies approximately 85 ft south of the southern border of the project site. Although historical imagery shows the irrigation canal primarily inundated with water throughout the year, northwestern pond turtles are unlikely to be found here due to the steep edges of the canal, lack of basking habitat, and proximity to a busy street and residential development. The closest known CNDDB occurrence is an undated occurrence 5 miles south of the project across California State Route 99 (CDFW 2024).
Blunt-Nosed Leopard Lizard (*Gambelia sila*)	FE, CE, CFP	Occurs in semiarid grasslands, alkali flats, and washes. Avoids densely vegetated areas. Inhabits the San Joaquin Valley and adjacent valleys and foothills north to southern Merced County.	**Absent.** Historical agricultural disturbance and urban development in and around the site has created unsuitable habitat for this species and there are no CNDDB occurrences within the vicinity of the project site (CDFW 2024).
Giant Garter Snake (*Thamnophis gigas*)	FT, CT, CFP	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. Inhabit small mammal burrows and other upland soil crevices during the winter during hibernation.	**Absent.** The giant garter snake was historically known from the area; there is a CNDDB occurrence from 1908 that was mapped to the general vicinity of the City of Merced (CDFW 2024). Since that time, the species has undergone a dramatic reduction in its range. The closest known extant population is in the North and South Grasslands region, some 20 miles west of the project site (USFWS 2012).
Tricolored Blackbird (*Agelaius tricolor)*	CT	Nests colonially near fresh water in dense cattails or tules, in thickets of willows or shrubs, and increasingly in grain fields. Forages in grassland and cropland areas.	**Possible.** Tricolored blackbirds are occasionally sighted in the general project vicinity, and may occasionally pass through or forage on site, though this species is not expected to nest on site or in the near vicinity. Analysis of aerial imagery indicates the site's agricultural field is typically planted to row vegetables, and not to crops suitable for tricolored blackbird nesting such as wheat, soy, or triticale.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Swainson's Hawk (*Buteo swainsoni*)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Likely.** There are over 50 sightings of Swainson's hawks within the vicinity of the project site and 30 CNDDB documented nesting occurrences within 10 miles of the project site (CDFW 2024, eBird 2024). The project site offers suitable foraging habitat for this species in the form of an agricultural field. The project site does not offer any nesting habitat, though mature trees within the vicinity of the project site represent potential nesting habitat. The high number of sightings and nesting occurrences within the area make it likely for this species to occur on site.
Bald Eagle (*Haliaeetus leucocephalus*)	CE, CFP	Nests and winters on ocean shores, lake margins and rivers. Uses old-growth snags. Mostly forages over water and along shores.	**Unlikely.** There are several eBird sightings of bald eagles within 10 miles of the project site and one unknown dated CNDDB nesting occurrence approximately 6 miles north of the project site at Lake Yosemite (CDFW 2024, eBird 2024). Bald eagles are not expected to forage or nest on or near the site due to lack of suitable habitat. They may occasionally fly over the site.
San Joaquin Kit Fox (SJKF) (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands. Utilizes enlarged ground squirrel burrows as denning habitat. May become adapted to urban environments, as has occurred in the cities of Bakersfield, Taft, and Coalinga.	**Unlikely.** The project site is situated in the outskirts of Merced, in an area characterized by residential, commercial, and intensive agricultural uses generally not compatible with kit fox ecology. No recent records of this species are known from the project vicinity; the four CNDDB occurrences within 10 miles of the site are all from 2001 or earlier, and there are no iNaturalist records within 20 miles. Finally, the site is located over 40 miles away from the nearest SJKF core population in the Ciervo-Panoche region. For these reasons, the SJKF is considered unlikely to occur on site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

California Species of Special Concern or Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Hardhead (*Mylopharadon conocephalus*)	CSC	Occurs in clear deep streams with a slow but present flow, in a low to mid-elevation environment. May also inhabit lakes or reservoirs. Spawns in pools, runs, or rifles with a gravel and rocky substrate.	**Absent**. Suitable habitat in the form of streams is absent from the project site
Burrowing Owl (*Athene cunicularia*)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Possible.** Burrowing owls are unlikely to nest or roost on site due to intensive agricultural practices in the oat field and tall, dense vegetative cover in the ruderal field. Burrowing owls may occasionally pass through or forage on site, if present in the vicinity. The closest CNDDB occurrences of this species are approximately 4.25 miles west of the project site at the Merced Municipal Airport (CDFW 2024).
Mountain Plover (*Charadrius montanus*)	CSC	This species is a winter resident of California's Central and Imperial Valleys, where it forages in short grasslands and freshly plowed fields. Breeds in the western Great Plains and Rocky Mountain states.	**Possible.** The site's agricultural field could provide foraging habitat for wintering mountain plovers. This species does not breed in the region.
Northern Harrier (*Circus cyaneus*)	CSC	Nests on the ground and forages in meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** This species has been spotted in the general vicinity of the project site but is not a common visitor and there are no CNDDB nesting records within 10 miles of the project site (CDFW 2024, eBird 2024). Nevertheless, the project site and surrounding lands provide some suitable foraging and nesting habitat for this species. Northern harriers will occasionally nest in dry, open fields if preferable habitat is unavailable, and the site's agricultural field and ruderal field could conceivably be used for this purpose.
Pallid Bat (*Antrozous pallidus*)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	**Possible.** Pallid bats could forage over the site, but roosting habitat is absent.
Western Mastiff Bat (*Eumops perotis* ssp. *californicus*)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	**Possible.** The western mastiff bat could forage over the site, but roosting habitat is absent.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

California Species of Special Concern or Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Western Red Bat (*Lasiurus blossevillii*)	CSC	This mostly solitary bat roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Possible.** The western red bat could forage over the site, but roosting habitat is absent.
American Badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Utilize subterranean burrows, usually self-dug, for rest and reproduction.	**Unlikely.** The project site is located in the outskirts of Merced, in an area characterized by residential, commercial, and intensive agricultural uses generally not compatible with badger ecology. The site itself is highly disturbed and unlikely to be occupied or utilized by American badgers.

OCCURRENCE DESIGNATIONS AND STATUS CODES

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCE	California Candidate Endangered
CFP	California Fully Protected
CSC	California Species of Special Concern
CR	California Rare

CRPR CODES

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

2.5 JURISDICTIONAL WATERS

Jurisdictional waters are those rivers, creeks, drainages, lakes, ponds, reservoirs, and wetlands that are subject to the authority of the USACE, CDFW, and/or the RWQCB. In general, the USACE regulates navigable waters, tributaries to navigable waters, and wetlands with a continuous surface connection to these waters, where wetlands are defined by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. All waters under USACE jurisdiction are also regulated by the RWQCB as waters of the State. Additionally, the RWQCB asserts jurisdiction over certain isolated

features disclaimed by the USACE. The CDFW has jurisdiction over waters that have a defined bed and bank. The regulation of jurisdictional waters is discussed in more detail in Section 3.2.7.

The project site contains two irrigation ditches that are depicted as blue-line waters on USGS topographical maps. With the development of Campus Parkway and other land use changes in the vicinity, both ditches appear to have been modified from their historic blue-line course, and are difficult to track in aerial imagery. The ditch along the eastern margin of the site's oat field appears to connect to Miles Creek approximately ½ mile south of project boundaries. As a tributary to a known Water of the U.S., it may itself be considered a Water of the U.S. by the USACE if it carries "relatively permanent" flows (see Section 3.2.7). The lack of wetland vegetation observed during the field survey, combined with limited evidence of inundation in Google Earth aerial imagery, suggests that it might not meet this standard. Regardless, it is likely to fall under the jurisdiction of the RWQCB as a Water of the State.

The ditch running east to west that separates the oat field from the ruderal field appears to either terminate or be undergrounded approximately 700 feet west of project boundaries and is no longer in use. Its vegetative community was indistinguishable from that of the ruderal field at the time of LOA's survey, and there are no Google Earth aerial images in which it is obviously inundated. As such, it may be a remnant feature. This ditch does not meet the current definition of a Water of the U.S. and is also not likely to be regulated by the RWQCB.

Neither of the project site's two ditches would fall under CDFW's jurisdiction.

2.6 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of their Vegetation Classification and Mapping Program (VegCAMP). Natural communities are assigned state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 3 or lower (on a 1 to 5 scale) is considered "sensitive" and must be considered in CEQA review.

The project site does not contain or adjoin any sensitive natural communities.

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The project site does not contain any features likely to function as wildlife movement corridors.

2.8 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project site and immediate vicinity.

3.0 RELEVANT GOALS, POLICIES, AND LAWS

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated and methods for avoiding or reducing these impacts are considered before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest." Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- 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.
- 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.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make "mandatory findings of significance" if there is substantial evidence that a project may:

- Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 OTHER RELEVANT LAWS AND POLICIES

3.2.1 Merced Vision 2030 General Plan

Cities and counties adopt general plans to guide future development and to protect and/or enhance natural and cultural resources. In general, projects must be consistent with the goals and policies of these general plans. The Merced Vision 2030 General plan was adopted in 2012. The "Open Space, Conservation & Recreation" element of the plan addresses the City of Merced's policies towards these resources. The goals with respect to biological resources are as follows:

- Maintain Merced's biological resources by identifying and mitigating impacts to wildlife habitats that support rare, endangered, or threatened species;
- Preserve and enhance creeks in their natural states;
- Expand and improve the City's urban forest;
- Preserve scenic corridors and resources;
- Improve and enhance water quality;

3.2.2 Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as "threatened" or "endangered" under one or both Acts, and/or as "rare" under CESA. Under both Acts, "endangered" means a species is in danger of extinction throughout all or a significant portion of its range, and "threatened" means a species is likely to become endangered within the foreseeable future. Under CESA, "rare" means a species may become endangered if their present environment worsens. Both Acts prohibit "take" of listed species, defined under CESA as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86), and more broadly defined under FESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). The USFWS commonly interprets "take" to include the loss of habitat utilized by a listed species.

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the "take" of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.2.3 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.

3.2.4 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

3.2.5 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

3.2.6 Habitat Conservation Plans and Natural Community Conservation Plans

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP), developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

3.2.7 Wetlands and Other Jurisdictional Waters

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Waters of the U.S. are presently defined by the EPA and USACE's joint 2023 Revised Definition of 'Waters of the U.S.' Rule (2023 WOTUS Rule), issued in January 2023 and amended in August 2023. Generally speaking, waters of the U.S. include:

- Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide
- The territorial seas
- Interstate waters
- Impoundments of waters otherwise defined as waters of the United States under the definition
- Tributaries to other waters of the U.S. that are relatively permanent, standing or continuously flowing bodies of water
- Wetlands adjacent to other waters of the U.S. that have a continuous surface connection to those waters

The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems
- Prior converted cropland

- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water
- Certain artificial features, e.g. irrigation basins, swimming pools, borrow pits, and artificially irrigated areas
- Swales and erosional features characterized by low volume, infrequent, or short duration flow

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board (SWRCB) has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining a Section 404 Clean Water Act permit. Discharges into waters of the State that are not also waters of the U.S. require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The SWRCB and RWQCBs also administer the federal National Pollution Discharge Elimination System (NPDES) program, which is concerned with the discharge of stormwater and other pollutants into water bodies. Projects that disturb one or more acres of soil must obtain coverage under the SWRCB's current NPDES Construction Stormwater General Permit. A prerequisite for permit coverage is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Other types of pollutant discharges into waters of the U.S., such as wastewater, may require coverage under a different NPDES general permit, and in some cases an individual permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of

Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

4.0 IMPACTS AND MITIGATIONS

The following discussions address the potential impacts to biological resources from development of the 73.7-acre mixed-use project in southeast Merced.

4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION

4.1.1 Potential Project Impacts to Nesting Birds and Raptors Including Northern Harrier and Swainson's Hawk

Potential Impacts. The project site has the potential to be used for nesting and foraging by several avian species including northern harrier, a California Species of Special Concern. Other birds and raptors, among them the state-threatened Swainson's hawk, may nest on adjacent lands and forage on site. Nearly all native birds are protected by the Migratory Bird Treaty Act and related state laws. Foraging birds and raptors are generally not susceptible to construction-related injury and mortality because they are highly mobile during this activity and can simply avoid active work areas. However, during the breeding season, adult birds have reduced mobility as they attempt to guard their nests, incubate eggs, and care for young, and nestlings may have no mobility at all. Nests may be destroyed by construction equipment, and the birds inside injured or killed. Noise and other forms of disturbance from nearby construction activities may cause birds to abandon their nests. Construction-related mortality of nesting birds and construction-related disturbance leading to nest abandonment are potentially significant impacts of the project. Moreover, such incidents would violate the Migratory Bird Treaty Act and California Fish and Game Code.

The project site is not expected to significantly impact the northern harrier or Swainson's hawk through loss of habitat as many more miles of similar or higher quality habitat exist in the vicinity of the project site. Loss of habitat for these species is not considered a significant impact of the project under CEQA.

Mitigation. The following measures will be implemented for the protection of nesting birds and raptors, including the northern harrier and Swainson's hawk.

> ***Mitigation Measure 4.1.1a (Construction Timing).*** If feasible, future construction activities will take place entirely outside of the avian nesting season, defined here as February 1 to August 31.

***Mitigation Measure 4.1.1b (Preconstruction Surveys*).** If construction must occur between February 1 and August 31, a qualified biologist will conduct surveys for active bird nests within 10 days prior to the start of work during this period. The survey area will encompass the site and accessible surrounding lands within ¼ mile for nesting Swainson's hawks, 500 feet for northern harrier and other nesting raptors, and 250 feet for nesting birds.

***Mitigation Measure 4.1.1c (Avoidance of Active Nests*).** Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

Implementation of the above measures will reduce potential project impacts to nesting birds and raptors, including the northern harrier and Swainson's hawk, to a less than significant level under CEQA and ensure compliance with state and federal laws protecting these species.

4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS

4.2.1 Potential Project Impacts to Special Status Plants

Potential Impacts. Twenty-seven special status plant species have been documented in the general vicinity of the project site (see Table 1). All 27 species are considered absent from the project site due to an absence of suitable habitat. The project is not expected to adversely affect these species, either directly or indirectly, and impacts are considered less than significant under CEQA.

Mitigation. No mitigation is warranted.

4.2.2 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the Project Site

Potential Impacts. Twenty-two special status animal species have been documented in the general vicinity of the project site or are known to occur regionally (Table 1). Of these, 14 are considered absent from or unlikely to occur on the site due to the absence of suitable habitat, the site's developed setting and other landscape factors, and/or the site's being situated outside of the species' known distribution. These comprise Crotch bumblebee (*Bombus crotchii*), conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*), California tiger salamander (*Ambystoma californiense pop. 1*), western spadefoot

(*Spea hammondii*), northwestern pond turtle (*Actinemys marmorata*), blunt-nosed leopard lizard (*Gambelia sila*), giant garter snake (*Thamnophis gigas*), San Joaquin kit fox (*Vulpes macrotis muitca*), hardhead (*Mylopharadon conocephalus*), bald eagle (*Haliaeetus leucocephalus*), and American badger (*Taxidea taxus*). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the project, directly or indirectly. Project impacts are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.3 Project Impacts to Special Status Animal Species that Would Use the Site for Non-sensitive Activities Only

Potential Impacts. Six special status animal species potentially occur on site, but are not expected to use the site for sensitive activities such as breeding, nesting, or communal roosting, nor are they likely to breed, nest, or communally roost close enough to the site that they would be vulnerable to construction-related disturbance during these activities. These species are the tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), mountain plover (*Charadrius montanus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis* ssp. *californicus*), and western red bat (*Lassiurus blossevillii*) (see Table 1).

Individuals of these species are unlikely to be injured or killed by construction activities because they are highly mobile while foraging or passing through and would be expected to simply avoid active work areas.

The project would not adversely affect any of these species through loss of foraging habitat. The site does not offer unique habitat for any of these species, nor is it likely to represent an important part of any individual foraging range, given its disturbed nature and developed setting. Similar and higher quality habitats are abundant in the project vicinity and elsewhere in the region. For these reasons, impacts to the tricolored blackbird, burrowing owl, mountain plover, pallid bad, western mastiff bat, and western red bat are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

4.2.4 Project Impacts to Wildlife Movement Corridors

Potential Impacts. The project site does not contain or adjoin any geographic features that could function as a wildlife movement corridor. Project impacts to wildlife movement corridors are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

4.2.5 Project Impacts to Sensitive Natural Communities and Critical Habitat

Potential Impacts. The project site does not contain or adjoin any sensitive natural communities or designated critical habitat. There will be no impact to such resources.

Mitigation. Mitigation is not warranted.

4.2.6 Project Impacts to Jurisdictional Waters

Potential Impacts. As discussed, the irrigation ditch running east to west that separates the oat field from the ruderal field does not meet the current definition of a Water of the US and is not likely to be regulated by state agencies. Furthermore, the ditch is abandoned and no longer in use. Impacts to this ditch are considered less than significant and will have no impact on jurisdictional waters.

The irrigation ditch running along the eastern border of the site, south of Campus Parkway, has some potential to be a jurisdictional water, however, as designed the project will avoid this ditch.
Mitigation. Mitigation is not warranted.

4.2.7 Consistency with Local Policies and Ordinances

Potential Impacts. The project appears consistent with the Merced Vision 2030 General Plan and policies related to biological resources.

Mitigation. Mitigation measures are not warranted.

4.2.8 Consistency with Habitat Conservation Plans and Natural Community Conservation Plans

Potential Impacts. At the time of this analysis there are no known HCPs or NCCPs that would apply to the project.

Mitigation. Mitigation measures are not warranted.

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APPENDIX A: VASCULAR PLANT LIST

APPENDIX A
VASCULAR PLANTS OF THE PROJECT SITE

In addition to the site's crop species, the plants listed below were observed on the project site during LOA's August 19, 2024 survey. The wetland indicator status of each plant, derived from the USACE-administered National Wetland Plant List for the Arid West Region, has been shown following its common name if available.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL – Upland

ASTERACEAE – Sunflower Family		
Carduus pycnocephalus	Italian Thistle	UPL
Centaurea solstitialis	Yellow Star Thistle	UPL
Centromadia pungens	Common Spikeweed	FAC
Erigeron bonariensis	Flax-leaved Horseweed	FACU
Helianthus annuus	Sunflower	FACU
Lactuca serriola	Prickly Lettuce	FACU
Silybum marianum	Milk Thistle	UPL
APOCYNACEAE – Dogbane Family		
Asclepias fascicularis	Narrowleaf Milkweed	FAC
BRASSICACEAE – Mustard Family		
Brassica nigra	Black Mustard	UPL
CHENOPODIACEAE – Goosefoot Family		
Salsola tragus	Russian Tumbleweed	FACU
CONVOLVULACEAE – Morning Glory Family		
Convolvulus arvensis	Field Bindweed	UPL
EUPHORBIACEAE – Spurge Family		
Croton setiger	Turkey-mullein	UPL
JUGLANDACEAE – Walnut Family		
Juglans hindsii	Northern California Black Walnut	FAC
LAMIACEAE – Mint Family		
Trichostema lanceolatum	Vinegarweed	FACU
MALVACEAE – Mallow Family		
Malva parviflora	Cheeseweed	UPL
ONAGRACEAE – Evening Primrose Family		
Epilobium brachycarpum	Panicle Willowherb	FAC
POACEAE – Grass Family		
Avena fatua	Wild Oat	UPL
Phalaris minor	Mediterranean Canarygrass	FAC

Sorghum halepense	Johnson Grass	FACU
POLYGONACEAE – Buckwheat Family		
Rumex crispus	Curly Dock	FAC
SOLANACEAE – Nightshade Family		
Datura wrightii	Jimsonweed	UPL

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

APPENDIX B
TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may be expected to routinely and predictably use or pass through the project site during some or all of the year. An asterisk denotes a species observed on or immediately adjacent to the site during surveys conducted for the current project by LOA on August 19, 2024.

CLASS: REPTILIA
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
Side-blotched Lizard (*Uta stansburiana*)
Western Fence Lizard (*Sceloporus occidentalis*)
FAMILY: TEIIDAE (Whiptails and relatives)
Western Whiptail (*Cnemidophorus tigris*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Pacific Gopher Snake (*Pituophis catenifer catenifer*)
Common Kingsnake (*Lampropeltis californiae*)
FAMILY: VIPERIDAE (Vipers)
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES
ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)
FAMILY: ARDEIDAE (Bitterns, Herons, and Egrets)
Great Blue Heron (*Ardea herodi*as)
*Great Egret (*Ardea alba*)
ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)
FAMILY: CATHARTIDAE (New World Vultures)
Turkey Vulture (*Cathartes aura*)
ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)
FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)
*Red-tailed Hawk (*Buteo jamaicensis*)
FAMILY: FALCONIDAE (Caracaras and Falcons)
*American Kestrel (*Falco sparverius*)
ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)
FAMILY: CHARADRIIDAE (Plovers and relatives)
Killdeer (*Charadrius vociferus*)
ORDER: COLUMBIFORMES (Pigeons and Doves)
FAMILY: COLUMBIDAE (Pigeons and Doves)
Rock Pigeon (*Columba livia*)
*Mourning Dove (*Zenaida macroura*)
Eurasian Collared Dove (*Streptopelia decaocto*)
ORDER: STRIGIFORMES (Owls)
FAMILY: TYTONIDAE (Barn Owls)

Barn Owl (*Tyto alba*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: TROCHILIDAE (Hummingbirds)

Black-chinned Hummingbird (*Archilochus alexandri*)

Anna's Hummingbird (*Calypte anna*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

Black Phoebe (*Sayornis nigricans*)

Say's Phoebe (*Sayornis saya*)

*Western Kingbird (*Tyrannus verticalis*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)

California Scrub Jay (*Aphelocoma coerulescens*)

*American Crow (*Corvus brachyrhynchos*)

Common Raven (*Corvus corax*)

FAMILY: ALAUDIDAE (Larks)

Horned Lark (*Eremophila alpestris*)

FAMILY: HIRUNDINIDAE (Swallows)

Cliff Swallow (*Petrochelidon pyrrhonota*)

Barn Swallow (*Hirundo rustica*)

FAMILY: AEGITHALIDAE (Bushtits)

Bushtit (*Psaltriparus minimus*)

FAMILY: TROGLODYTIDAE (Wrens)

House Wren (*Troglodytes aedon*)

FAMILY: REGULIDAE (Kinglets)

Ruby-crowned Kinglet (*Regulus calendula*)

FAMILY: TURDIDAE (Thrushes)

American Robin (*Turdus migratorius*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

*Northern Mockingbird (*Mimus polyglottos*)

FAMILY: PARULIDAE (Wood Warblers and Relatives)

Yellow-rumped Warbler (*Dendroica coronata*)

FAMILY: STURNIDAE (Starlings and Allies)

European Starling (*Sturnus vulgaris*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

American Pipit (*Anthus rubrescens*)

FAMILY: EMBERIZIDAE (Sparrows)

Savannah Sparrow (*Passerculus sandwichensis*)

White-crowned Sparrow (*Zonotrichia leucophrys*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

*Western Meadowlark (*Sturnella neglecta*)

Red-winged Blackbird (*Agelaius phoeniceus*)

Great-tailed Grackle (*Quiscalus mexicanus*)

Brewer's Blackbird (*Euphagus cyanocephalus*)

Brown-headed Cowbird (*Molothrus ater*)

Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)

House Finch (*Carpodacus mexicanus*)
Lesser Goldfinch (*Carduelis psaltria*)
FAMILY: PASSERIDAE (Old World Sparrows)
House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA
ORDER: DIDELPHIMORPHIA (Marsupials)
FAMILY: DIDELPHIDAE (Opossums)
Virginia Opossum (*Didelphis virginiana*)
ORDER: INSECTIVORA (Shrews and Moles)
FAMILY: TALPIDAE (Moles)
Broad-footed Mole (*Scapanus latimanus*)
ORDER: CHIROPTERA (Bats)
FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)
Yuma Myotis (*Myotis yumanensis*)
California Myotis (*Myotis californicus*)
Western Pipistrelle (*Pipistrellus hesperus*)
Big Brown Bat (*Eptesicus fuscus*)
FAMILY: MOLOSSIDAE (Free-tailed Bat)
Brazilian Free-tailed Bat (*Tadarida brasiliensis*)
ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)
FAMILY: LEPORIDAE (Rabbits and Hares)
Audubon's Cottontail (*Sylvilagus audubonii*)
ORDER: RODENTIA (Rodents)
FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)
*California Ground Squirrel (*Otospermophilus beecheyi*)
FAMILY: GEOMYIDAE (Pocket Gophers)
*Botta's Pocket Gopher (*Thomomys bottae*)
FAMILY: MURIDAE (Mice, Rats and Voles)
Western Harvest Mouse (*Reithrodontomys megalotis*)
Deer Mouse (*Peromyscus maniculatus*)
Norway Rat (*Rattus norvegicus*)
House Mouse (*Mus musculus*)
California Vole (*Microtus californicus*)
FAMILY: HETEROMYIDAE (Kangaroo Rats)
Heermann's Kangaroo Rat (*Dipodomys heermanni*)
ORDER: CARNIVORA (Carnivores)
FAMILY: CANIDAE (Foxes, Wolves, and Relatives)
Red Fox (*Vulpes vulpes*)
Coyote (*Canis latrans*)
*Domestic Dog (*Canis familiaris*)
FAMILY: PROCYONIDAE (Raccoons and Relatives)
Raccoon (*Procyon lotor*)
FAMILY: MUSTELIDAE (Weasels and Relatives)
Striped Skunk (*Mephitis mephitis*)
FAMILY: FELIDAE (Cats)
Feral Cat (*Felis cattus*)

APPENDIX C: REPRESENTATIVE PHOTOS OF THE PROJECT SITE

Photo 1: Southern portion of the site's oat field, looking southwest.

Photo 2: Southern portion of the site's oat field, looking north towards a California ground squirrel burrow matrix and the trees bordering Campus Parkway.

Photo 3: Northern portion of the site's oat field, looking southeast.

Photo 4: Northern portion of the site's oat field, facing southwest. Campus Parkway on left side of the image.

Photo 5: Northeast portion of the ruderal field in foreground with oat field in background. Facing northwest.

Photo 6: Ruderal field habitat, facing west along the dry, overgrown irrigation ditch. At the time of LOA's survey, the ditch was filled with oat and Russian thistle and virtually indistinguishable from the surrounding landscape.

APPENDIX C
CULTURAL RESOURCES STUDY AND EVALUATION

Cultural Resource Study and Evaluation for Merced Gateway, City of Merced, California

Nicole Saenz and Cheyenne Good-Peery

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draft

USGS Merced, CA 7.5-quadrangle, T07S, R14E, Sec. 34
71.18-acre Project area
Resources: Doane Lateral (P-24-001886); Unnamed Earthen Ditch, 3345 East Gerard (P-24-001930)

MANAGEMENT SUMMARY

At the request of Lennar Homes of California, LLC, Applied EarthWorks, Inc. (Æ) completed a cultural resource study for the proposed Merced Gateway (Project) in the city of Merced in Merced County, California. The Project includes development of 562 single-family homes on a 71.18-acre lot southeast of the intersection of Pluim Drive and Gerard Avenue.

As part of the California Environmental Quality Act (CEQA) review process, the Development Review Committee of the City of Merced (City) has requested a cultural resource study be conducted for the Project to assist with the identification of historical resources within the Project area. CEQA mandates that public agencies determine whether a project will cause a significant change to the environment, including cultural resources. To assist the City and Lennar Homes of California, LLC in fulfilling their responsibility under CEQA, Æ conducted a cultural resource study to identify whether there are historical resources (i.e., cultural resources listed or eligible for listing in the California Register of Historical Resources [CRHR]) within the Project area.

For this study, Æ conducted a records search at the Central California Information Center (CCaIC) of the California Historical Resources Information System (CHRIS); desktop research to better understand the history of land use in the Project area; a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, and nongovernmental outreach to local tribes and individuals; an intensive pedestrian survey of the entire 71.18-acre Project area to identify archaeological and historical built environment cultural resources; and an evaluation of two historical built environment resources for listing in the CRHR.

The CCaIC records search returned three previously recorded historic-era cultural resources within the Project area—the Merced Irrigation District (P-24-001909), the Doane Lateral (P-24-001886), which is owned by the Merced Irrigation District, and a residential and agricultural property (P-24-001930)—and nine previously recorded cultural resources within a 0.5-mile radius. Additionally, the CCaIC reported 7 cultural resource studies previously conducted within the Project area and 14 previous studies within the 0.5-mile radius. A search of the NAHC's Sacred Land File did not identify Native American cultural resources within or near the Project area, and no specific information was gleaned from outreach with local tribal representatives.

Æ conducted an archaeological pedestrian survey of the Project area on August 28 and November 8, 2024, and a built environment pedestrian survey on August 31, 2024. Æ archaeologists did not discover any precontact or historic-era archaeological resources within the Project area. One possibly historic-era straight razor was observed but not recorded due to lack of provenience. Æ architectural historians found that the previously recorded residential and agricultural property (P-24-001930) is no longer extant and identified two historic-era built environment resources within and adjacent to the Project area—the Doane Lateral (P-24-001886) and an unnamed earthen ditch. Although, the Doane Lateral (P-24-001886) is adjacent to the eastern boundary of the Project area, Æ recorded and evaluated this resource at the request of Lennar Homes of California, LLC, to facilitate potential future development. Æ evaluated the two water conveyances resources for CRHR eligibility and found both resources ineligible for

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listing because they do not possess significance under any CRHR evaluation criteria. Therefore, they do not qualify as historical resources for the purposes of CEQA and no further action is recommended for the management of these cultural resources.

Æ's cultural resource study found no historical resources within the Project area that could be impacted by the proposed development. However, if cultural resources are discovered during Project activities, all work should halt until a qualified archaeologist can assess the find. Additionally, if human remains are uncovered during construction, the Project operator shall immediately halt work within 50 feet of the find, contact the Merced County Coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American person, then the California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend treatment of the ancestral human remains.

Field notes, maps, and a complete set of photographs from the current study are on file at Æ's office in Fresno, California. A copy of the final version of this report will be submitted to the CCaIC of the CHRIS at California State University, Stanislaus.

DRAFT

CONTENTS

1 INTRODUCTION....1
1.1 PROJECT DESCRIPTION....1
1.2 REGULATORY GUIDANCE....1
1.3 PROJECT PERSONNEL....5
1.4 REPORT ORGANIZATION....5

2 SETTING....7
2.1 NATURAL SETTING....7
2.2 PRECONTACT PERIOD AND ARCHAEOLOGY....8
2.3 ETHNOGRAPHY....9
2.4 HISTORIC CONTEXT....10
2.4.1 Beginnings of Merced County....10
2.4.2 Merced Irrigation District....11
2.4.3 Agriculture in Merced County....11

3 METHODS....12
3.1 RECORDS SEARCH....12
3.2 ARCHIVAL RESEARCH....12
3.3 NATIVE AMERICAN OUTREACH....13
3.4 ARCHAEOLOGICAL AND BUILT ENVIRONMENT FIELD SURVEYS....13

4 FINDINGS....14
4.1 RECORDS SEARCH....14
4.1.1 Previous Cultural Resource Studies....14
4.1.2 Previously Recorded Resources....16
4.2 BACKGROUND RESEARCH....18
4.2.1 Property-Specific History....18
4.3 NATIVE AMERICAN OUTREACH....20
4.4 ARCHAEOLOGICAL SURVEY FINDINGS....21
4.5 BUILT ENVIRONMENT SURVEY FINDINGS....24
4.5.1 Doane Lateral....24
4.5.2 Unnamed Earthen Ditch....27

5 HISTORIC RESOURCE EVALUATIONS....30
5.1 EVALUATION CRITERIA....30
5.2 ASPECTS OF INTEGRITY....31
5.3 CRHR EVALUATIONS....32
5.3.1 Doane Lateral....32
5.3.2 Unnamed Earthen Ditch....34

6 SUMMARY AND MANAGEMENT RECOMMENDATIONS....36
6.1 SUMMARY....36
6.2 RECOMMENDATIONS....37

DRAFT

6.2.1 Inadvertent Discoveries 37
6.2.2 Inadvertent Discovery of Human Remains....37

7 REFERENCES....38

APPENDICES

A Personnel Qualifications
B Records Search Results
C Native American Outreach
D Cultural Resource Records

FIGURES AND TABLES

Figure 1-1 Project vicinity in Merced County, California....2
Figure 1-2 Project location on USGS Merced 7.5-minute topographic quadrangle....3
Figure 1-3 Aerial view of the Project area....4
Figure 4-1 1957 aerial photograph with the Project area indicated in red....19
Figure 4-2 Survey coverage and cultural resources within the Project area....22
Figure 4-3 Ground visibility in the Project area, facing southwest. 23
Figure 4-4 Tall grass and thistle in the area recorded as P-24-001930 in the northern portion of the Project area, facing south....23
Figure 4-5 Depression of unknown purpose in the northern portion of the Project area, facing northwest.....24
Figure 4-6 Undergrounded lateral north of Campus Parkway, facing north. 25
Figure 4-7 Aboveground portion of the lateral with evidence of vegetation intrusion, facing north.....25
Figure 4-8 Trees growing in lateral and view of concrete culvert, facing east. 26
Figure 4-9 Metal post with debris and manhole, facing northeast. 26
Figure 4-10 Culvert at west end of the underground diversion, left photo facing northeast.....27
Figure 4-11 Earthen ditch with severe vegetation intrusion from east end of the segment, facing west.....28
Figure 4-12 Concrete culvert on the bank of the segment, facing northeast. 28
Figure 4-13 Partially fallen fence along west side of the parcel, facing south. 29

Table 4-1 Previous Investigations in the Project Area and 0.5-Mile Search Radius 14
Table 4-2 Previously Recorded Cultural Resources within the Project Area and 0.5-Mile Search Radius....16

DRAFT

1
INTRODUCTION

At the request of Lennar Homes of California, LLC, (Lennar) Applied EarthWorks, Inc. (Æ) completed a cultural resource study for the Merced Gateway (Project) within the city of Merced, Merced County, California (Figure 1-1). The Project is in the southwest quarter of Section 34 of Township 07 South, Range 14 East, as depicted on the U.S. Geological Survey (USGS) Merced (1987) California, 7.5-minute topographic quadrangle (Figure 1-2). The Project area is a 71.18-acre lot southeast of the intersection of Pluim Drive and East Gerard Avenue, bisected by Campus Parkway (Figure 1-3).

1.1 PROJECT DESCRIPTION

Lennar is proposing a 562-unit, single-family home community on 71.18-acres between East Gerard Avenue and East Mission Avenue, east of South Coffee Street and directly west of the northern portion of Campus Parkway, which curves west and divides the Project into north and south segments. Project designs also include construction of a 1.75-acre park and interior streets, curbs, and gutters. The future Pluim Drive will be constructed from curb to curb as an extension of the existing road to the north and will serve as the western border of the development. A traffic signal will be installed at the intersection of Pluim Drive and Campus Parkway. Additionally, road widening will be completed on East Gerard and East Mission avenues.

The Project is within the larger Merced Irrigation District (MID) and the Doane Lateral (P-24-001886) runs just outside of the eastern border of the Project area. The MID does not warrant further study at this time (see Sections 2.4.2 and 4.1.2); however, Æ recorded and evaluated the Doane Lateral at the request of Lennar to facilitate potential future development in this area.

1.2 REGULATORY GUIDANCE

The Project is subject to the California Environmental Quality Act (CEQA), with guidelines for implementation codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Section 15000 et seq. Historical resources are considered part of the environment and are subject to review under CEQA. Per CEQA, the lead agency, in this case the City of Merced (City), is required to determine whether a project may have a significant effect on historical resources, and therefore cause a significant effect on the environment (Public Resources Code [PRC] Section 5024.1[b]). CEQA defines a substantial adverse change to a historical resource as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (14 CCR Section 15064.5[b][1]). Where substantial adverse change is unavoidable and the historical resource cannot be preserved in an undisturbed state, the lead agency shall require mitigation measures to minimize substantial adverse changes to the resource's significance (PRC Section 21083.2[c]). It is further stipulated that the "lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures" (14 CCR Section 15064.5[b][4]; PRC Section 5020.1[q]).

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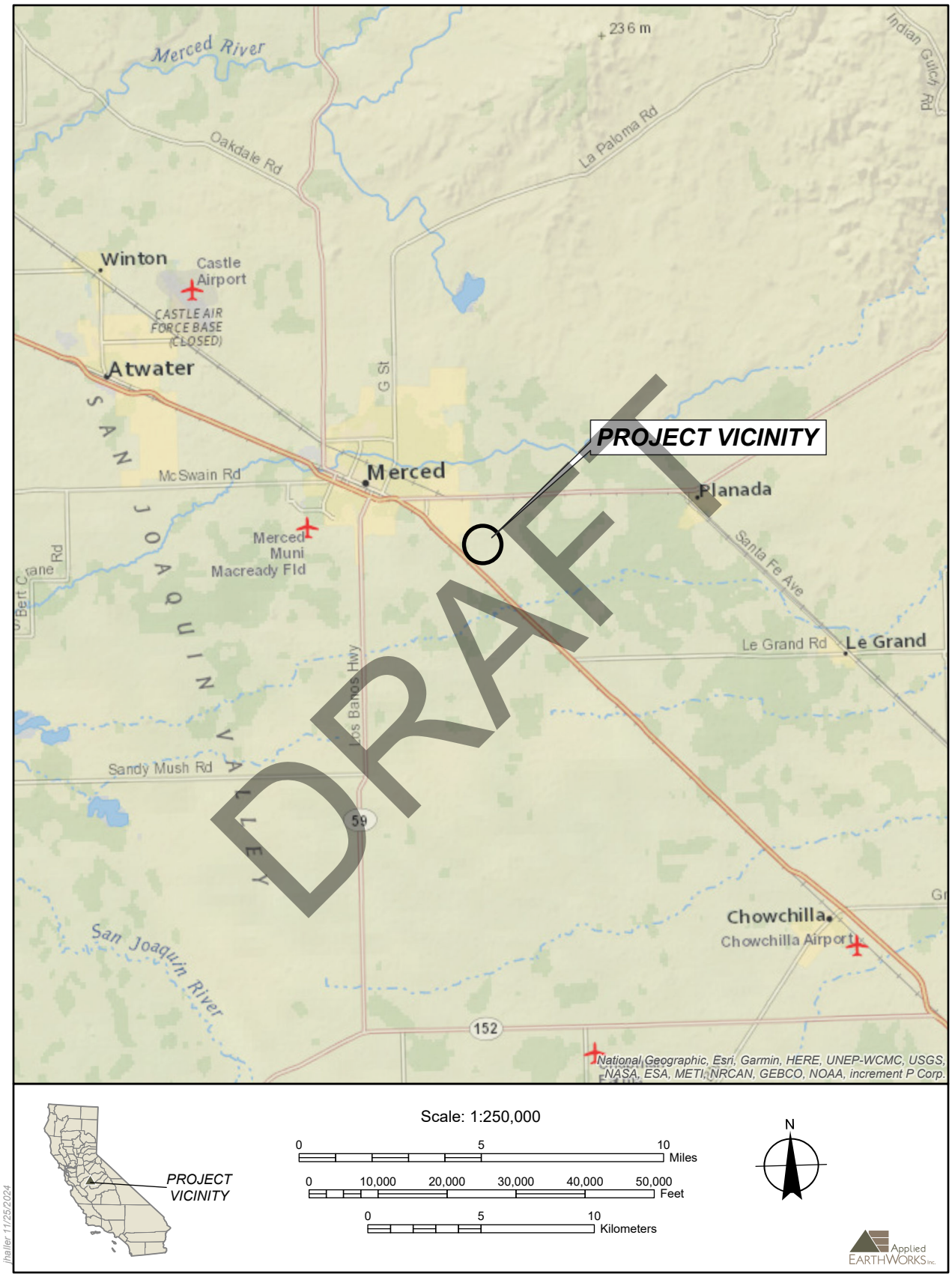

Figure 1-1 Project vicinity in Merced County, California.

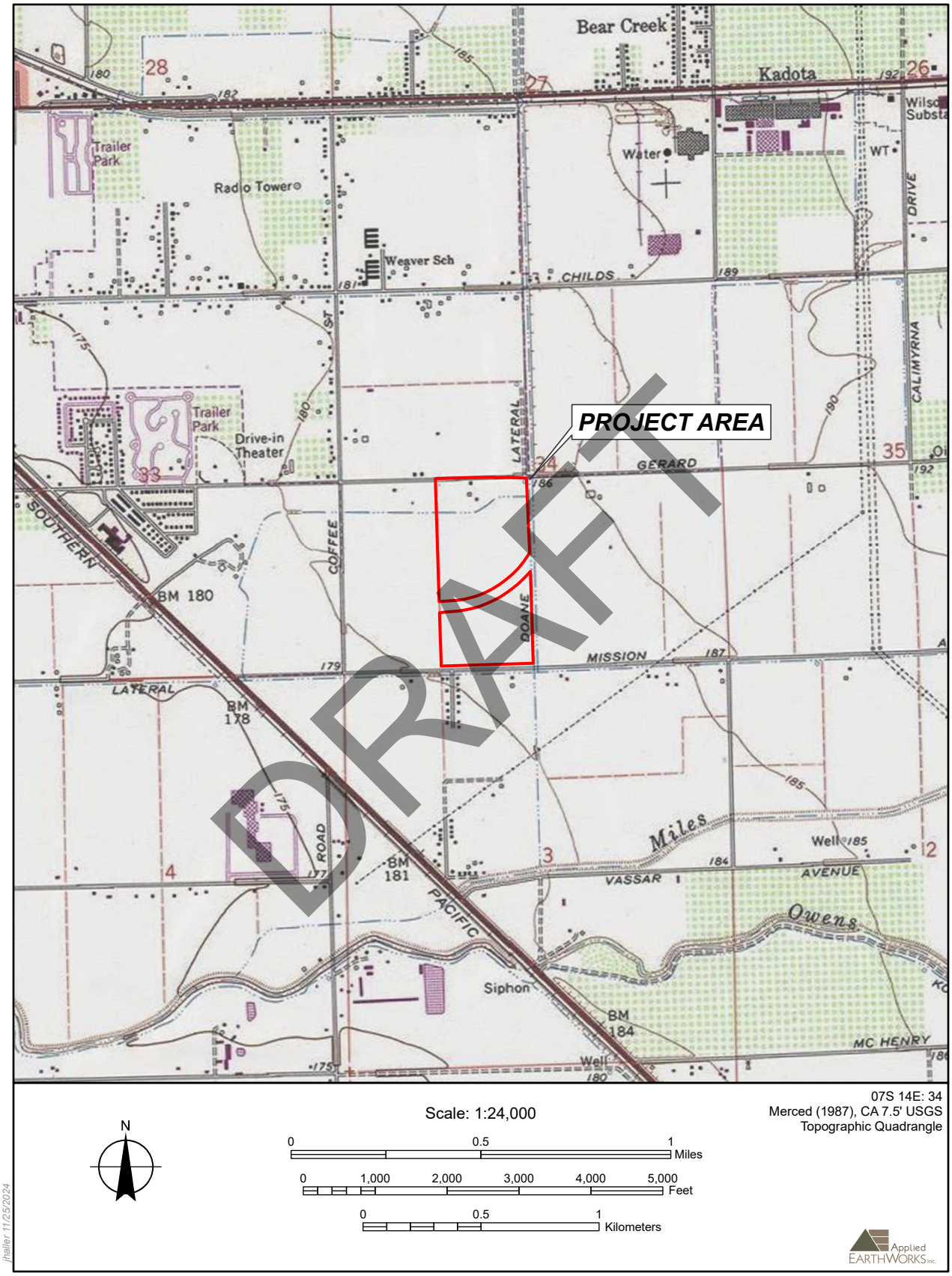

Figure 1-2 Project location on USGS Merced 7.5-minute topographic quadrangle.

Figure 1-3 Aerial view of the Project area.

In addition, the Recreation and Cultural Resources Element of the 2030 Merced County General Plan (2013), put forth by Merced County (County), outlines several goals and policies aimed at the preservation, restoration, and compatible reuse of historically significant structures and sites. Of note is Goal RCR-2, which states that the County will "protect and preserve the cultural, archaeological, and historical resources of the County in order to maintain its unique character." This goal is supported by Policy RCR-2.1: Archaeological Site and Artifact Protection, which states that the County "[r]equires development projects that affect archaeological sites and artifacts to avoid disturbance or damage to these sites" and Policy RCR-2.2: Historical Area Preservation, which stipulates that the County "support preservation of historical structures and areas, particularly those listed on the National Register of Historic Places and the California Register of Historic Places [sic]."

For the purposes of this report, a cultural resource is defined as a precontact or historical (i.e., 45 years old or older) archaeological site or a historical building, structure, or object (Office of Historic Preservation 1995). The importance or significance of a cultural resource depends on whether it qualifies for inclusion in the California Register of Historical Resources (CRHR). Cultural resources determined eligible for listing in the CRHR are called "historical resources" (Title 14, Chapter 3, Article 5, Section 15064.5 of the CCR). The determination of eligibility is based on a set of significance criteria (14 CCR 15064.5).

1.3 PROJECT PERSONNEL

Æ Principal Archaeologist Anna Hoover (M.S.), Registered Professional Archaeologist [RPA] 28576661) served as project manager, providing quality assurance, quality control and technical oversight. Principal Architectural Historian Carlos van Onna (M.A.) oversaw all built environment tasks. Staff Anthropologist Nicole Saenz (M.S.) co-authored the report. Associate Archaeologists Betsy Rapp (B.A.) and Ward Stanley (B.A.) and Field Technician Charles Pansarosa (B.A.) conducted the archaeological pedestrian survey, and Staff Architectural Historian Julio Olivares (M.A.) conducted the built environment pedestrian survey. Additional built environment tasks, including preparation of report sections and California Department of Parks and Recreation (DPR) forms, were completed by Associate Architectural Historian Cheyenne Good-Peery (B.A.). Æ Senior Archaeologist Jasmine Kidwell (M.A., RPA 17325) reviewed this document for consistency and technical accuracy. Qualifications of key personnel are provided in Appendix A.

1.4 REPORT ORGANIZATION

This report was prepared in accordance with the California Office of Historic Preservation's *Archaeological Resource Management Reports: Recommended Contents and Format* (Office of Historic Preservation 1990). This document consists of seven chapters. Following this introduction, Chapter 2 describes the environmental and cultural context of the Project area. Chapter 3 presents the methods used for archaeological and built environment background research, Native American outreach, and pedestrian surveys, while Chapter 4 discusses the results of these efforts. Chapter 5 presents CRHR evaluations of identified historic-era built environment resources. Chapter 6 contains a summary and provides recommendations. A complete listing of references cited is in Chapter 7. Appendix A contains resumes of key personnel. Appendix B presents the records search results and Appendix C contains

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documentation of communication with the NAHC and local tribal representatives. Appendix D contains DPR forms for all recorded cultural resources.

Field notes, maps, and a complete set of photographs from the current study are on file at Æ's office in Fresno, California. A copy of the final version of this report will be submitted to the Central California Information Center (CCaIC) of the California Historical Resources Information System (CHRIS) at California State University, Stanislaus.

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2
SETTING

This chapter describes the natural environment within the Project area and surrounding region. It provides a summary of precontact and previous archaeological investigations as well as an ethnographic overview. The chapter concludes with an overview of the history of the region and specific information about the Project area that provides a context for evaluation of the significance of the recorded cultural resources.

2.1 NATURAL SETTING

The Project area lies within the San Joaquin Valley. The San Joaquin Valley and its northern counterpart, the Sacramento Valley, comprise the Central Valley, a 50-mile-wide elongated trough that extends approximately 400 miles south from the Cascade Range to the Tehachapi Mountains (Norris and Webb 1990). This vast lowland parallels the Sierra Nevada, which has had considerable effect on the valley's geological past and current hydrology.

From the late Mesozoic until the late Cenozoic, the area that would become the Great Valley served as a shallow marine embayment (Norris and Webb 1990). The Coast Ranges had yet to be formed, but the region received sediments from the eroding Sierra Nevada as well as marine deposition throughout this period. These waters began to diminish around 10 million years ago and eventually were cut off from the ocean altogether by the formation of the Coast Ranges (starting in the late Pliocene), leaving tributaries and small lakes that survived until historical times (Hill 1984; Norris and Webb 1990). Much of the Great Valley rests upon thick strata of alluvial sediments laid down during the Quaternary (Norris and Webb 1990; Figure 12-9). It is this same soil that today makes the valley such a fertile agricultural region. Below these levels are layers from the Pliocene and older epochs, which consist of both marine (shale, sandstone) and nonmarine (basalt, andesite) materials.

The San Joaquin River is the San Joaquin Valley's dominant hydrological feature. The river descends from the foothills northeast of Fresno and flows west across the valley floor toward the community of Mendota, where it turns and follows a north–northwest course to the Sacramento–San Joaquin Delta region. Along the way, numerous rivers and creeks emerging from the Sierra Nevada flow into the San Joaquin River—within Merced County, which is fed by the Merced and Chowchilla rivers as well as Bear Creek. The San Joaquin and Sacramento rivers converge in the Delta, where they eventually empty into San Francisco Bay. Prior to the mid-twentieth century and construction of Friant Dam, which controls the river's natural run-off, the river's periodic overflow during the rainy seasons (winter and spring) created marshes and swamps along its banks. Historical and even current maps of the Project vicinity show a dense network of sloughs on either side of the river. The wetlands surrounding the San Joaquin River and other waterways supported marshy or aquatic communities of tule (*Scirpus* sp.), cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), and willow (*Salix* sp.) (Wallace 1978b).

The previously swampy valley floor once provided a lush habitat for a variety of animals. Even as late as the 1860s, travelers passing through the valley reported that there were "herds of antelope in sight all the time, grizzly bears along the river, bands of wild horses on the plains,

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many elk along the sloughs, and in the winter and spring, millions of ducks and geese and many sand hill cranes. Coyotes and jackrabbits were unbelievably thick" (Radcliffe 1940). In addition, salmon, which made their annual runs up the San Joaquin River and its tributaries, provided a short-term but abundant food source during historical and precontact times.

2.2 PRECONTACT PERIOD AND ARCHAEOLOGY

Relatively few archaeological investigations have been conducted in the Central Valley south of the Stockton area, and thus information on precontact events in the area is sparse. The results of these few studies nonetheless provide valuable information for understanding the first people who inhabited this region. Details of these efforts are summarized by Moratto (1984) and briefly presented below.

A cultural sequence for the Central Valley was first proposed in the 1930s, after archaeologists from Sacramento Junior College and University of California, Berkeley excavated numerous sites in the Sacramento–San Joaquin Delta and lower Sacramento Valley (Heizer 1936; Heizer and Fenenga 1938; Heizer and Krieger 1935–1936; Lillard and Purves 1936; Riddell and Riddell 1940; Wedel 1935); many of these were mound sites. Through an intersite comparison of stratigraphically distinct cultural assemblages, a tri-period chronological sequence—Early Horizon, Middle Horizon, and Late Horizon—was developed for the Delta region, defined primarily in terms of mortuary patterns and ornamental artifacts (Lillard et al. 1939; Moratto 1984).

Efforts to date this widely used Delta sequence were problematic due to the broad geographic and cultural range to which it was applied. Initial dates of 2500 B.C. for the Early Horizon, 1500 B.C. for the Middle Horizon, and A.D. 500 for the Late Horizon were developed mid-century (Heizer 1949) and have remained relatively unchanged. However, growing criticism and frustration with the limitations of the sequence (Bickel 1974; Gerow 1954), spurred by the development of more sophisticated dating techniques, prompted Ragir (1972), Bennyhoff (1977), Fredrickson (1974), and others to modify the sequence and develop variations for specific localities in central California (Moratto 1984). As Moratto (1984) summarizes, the precontact history of the mid Central Valley is better understood now in terms of the broad cultural "patterns" proposed by Fredrickson (1974) "which represent fundamental economic, technologic, and often social continuities over large areas and long intervals of time." The Windmiller, Berkeley, and Augustine patterns are especially relevant to Central Valley precontact history.

Studies conducted in the 1960s along the eastern side of the Diablo Mountains, west of the Project area, resulted in the identification of a cultural sequence similar to, but distinct from, that of the Delta region. Excavations conducted for the construction of several reservoirs, including San Luis (Olsen and Payen 1969; Riddell and Olsen 1965; Treganza 1960), Los Banos (Pritchard 1967, 1970), and Little Panoche (Olsen and Payen 1968), led to the construction of four cultural complexes focused on the exploitation of the foothill-valley biotic zone. As summarized by Moratto (1984), the earliest complex identified is the Positas Complex (circa 3300–2600 B.C.), which is distinguished by small mortars, short cylindrical pestles, milling stones, perforated flat cobbles and spire-lopped *Olivella* beads. The Pacheco Complex (circa 2600 B.C.–A.D. 300) is divided into an early and late phase. The earlier phase (until circa 1600 B.C.) is marked by

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foliate bifaces, rectangular *Haliotis* ornaments, and thick rectangular *Olivella* beads. Various *Olivella* bead types including spire-ground, modified saddle, saucer, and split-drilled types; *Haliotis* disk beads; bone awls, whistles, and grass saws; large stemmed and side-notched points; and an abundance of milling stones, mortars, and pestles make up the later phase. Moratto notes that the Pacheco shell and bone industries are most like those of the Delta "Middle Horizon." The Gonzaga Complex (circa A.D. 300–1000) is recognized by extended and flexed burials, bowl mortars and shaped pestles, squared and tapered-stem projectile points, a distinct bead assemblage, and other artifacts similar to that of the Delta "Late Horizon" Phase 1. Large circular structures, flexed burials as well as primary and secondary cremations, some milling stones, varied mortars and pestles, small side-notched arrow points, bone tools, clamshell disk beads, *Haliotis* and *Olivella* beads, and other artifacts comparable to those of the Delta "Late Horizon" Phase 2 are typical of the Panoche Complex (circa A.D. 1500–1850).

It is difficult to determine the ancestry of these early inhabitants. Olsen and Payen (1983) speculate that Costanoans may have crossed the Diablo Range and established habitation on its eastern side near the pass. Others suggest that the artifact assemblages associated with occupation circa 1000 B.C.–A.D. 500 are more similar to those of the Valley Yokuts (Moratto 1984). The latest occupation, the Panoche Complex, is associated with the time that the ethnographic Yokuts inhabited the region.

2.3 ETHNOGRAPHY

The vicinity surrounding the Project area was likely inhabited by the Northern Valley Yokuts, whose territory extended south from Bear Creek near Stockton to the south side of the San Joaquin River past Mendota, east to the Sierra foothills, and west to the Coast Ranges (Wallace 1978b). Specifically, the lower reaches of the Merced River were within the territory of the Coconoon group of the Northern Valley Yokuts. Although there are no firm ethnographic data, Latta (1977) hypothesized that the Ausumne tribelet of the Coconoon group occupied the Project area. It is also possible that at some point during the precontact era the Chauchela tribelet occupied the Project area, although it is unclear how far away from the Chowchilla River (south of the Project area) the Chauchela ranged (Latta 1977). Johnson and Lorenz (2006) place the Silelamne closer to Livingston.

The Northern Valley Yokuts occupied year-round villages along the San Joaquin River and other major tributaries to exploit riverine resources. The Delta wetlands stocked an array of waterfowl and aquatic resources as well as herds of browsing mammals that frequented the fringes of the marshes. Wallace (1978b) states that fish were one of the most important resources procured, with salmon topping the list of preferred varieties. Some travel did occur for collection of seasonal plant foods and hunting.

The Northern Valley Yokuts were organized into individual autonomous villages composed of single-family structures (Moratto 1988). The structures were small and usually built from woven tule mats. Other structures included sweathouses and ceremonial chambers. Villages were established on high ground near drainages and other valley water sources (Moratto 1988).

Most stone artifacts were fashioned of chert from nearby coastal sources, and obsidian was imported from other locations (Wallace 1978b). Mortars and pestles were the dominant ground stone tools; bone was used to manufacture awls for making coiled baskets. Tule was important in

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the manufacture of mats and boats, and other materials were acquired by trading with neighboring Miwok and Costanoans.

As with other Indian groups in the valley, the lifeways of the Northern Valley Yokuts were dramatically altered as a result of contact with Spanish explorers and missionaries, miners, ranchers, and other European immigrants who entered the valley after 1800. Population estimates for the eighteenth century put the number of Yokuts living in the San Joaquin Valley at around 41,000. However, the introduction of European culture and new diseases proved devastating to the native population. Traditional lifestyles were diminished and numerous people died from disease (Moratto 1988).

2.4 HISTORIC CONTEXT

The first Europeans known to have ventured into the San Joaquin Valley were Spanish soldiers led by Pedro Fages, who entered the valley through Tejon Pass in 1772 (Wallace 1978a). Other Europeans followed in 1806 when Lieutenant Gabriel Moraga led a group of Spanish explorers into the San Joaquin Valley to locate new lands for missions (Clough and Secrest 1984). It was on this expedition that Moraga gave the Merced River its official name (El Rio de Nuestra Señora de la Mercedes [River of Our Lady of Mercy]) when he and his troops reached its bank after a long hot trek through the valley. The expansion of missions in California ceased by the early 1820s as a result of Mexico's independence from Spain (Clough and Secrest 1984), and the Mexican government granted several large tracts of land (ranchos) to individuals during the 1830s and 1840s. The region remained sparsely populated, and the arid valley climate was not conducive to dry farming. Nevertheless, the establishment of the ranchos not only provided the legal basis for property rights for years to come but also marked the beginnings of the Central Valley's first industry—cattle ranching.

The discovery of gold in the Sierra Nevada and the accession of California to the Union were watershed events in the history of the state and Merced County. During the late 1840s and early 1850s, prospectors from across the nation and around the world flocked to California to mine the precious ore. The first settlements in the county emerged in the foothill areas along the Merced River and included Snelling and Forelorn Hope, later renamed Hopeton (Outcalt 1925).

2.4.1 Beginnings of Merced County

Established in 1855, Merced County was carved out of the northwest portion of Mariposa County. The first county seat was at the Turner and Osborn Ranch on Mariposa Creek but shortly moved to the Snelling Ranch, where a courthouse was constructed in 1857. Except for fertile areas along the banks of the major waterways, the Central Valley remained largely undeveloped. To the speculators that came to the Sierra Nevada from San Francisco and other western ports, the valley probably represented little more than a dry stretch of land to be traversed before reaching the goldfields to the east. The momentum of the gold rush could not be sustained, and by the early 1850s most of the miners and the merchants who relied on their patronage began to look to other pursuits. With the coming of the railroad and the advent of intensive irrigation, the focus of the county shifted from the foothills to the valley. The founding of the City of Merced in the early 1870s coincided with the arrival of the Central Pacific Railroad (later renamed the Southern Pacific).

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Beginning in the 1870s, Merced County also saw a change in its economic leadership. Cattle ranching, which boomed during the 1850s and 1860s with the influx of miners and homesteaders to the valley, gave way to agriculture, specifically wheat farming. Throughout the valley, wealthy real estate moguls were applying a similar formula, purchasing large tracts of land for subdivision, referred to as "colonies," and selling the parcels to be used for small and medium-sized farming operations. Critical to the marketing and success of these colonies was the development of a reliable water conveyance system that could transform dry soils into arable land. A network of canals soon spread across the valley floor.

2.4.2 Merced Irrigation District

Emerging from the aggregation of various irrigation canals and ditches that were privately constructed between 1870 and 1922, the Merced Irrigation District formed as a public entity in 1919 (McSwain 1978). The Merced Irrigation District quickly became the leading irrigation district in Merced County and was providing irrigation for roughly 180,000 acres of farmland by 1920 (McSwain 1978). Designed as a publicly owned company, the Merced Irrigation District operated through the collection of taxes from landowners. Taxes were based on the crop type and acreage size. Ditch tenders were employed by the Merced Irrigation District to maintain laterals and help reduce the frequency of conflicts between agricultural landowners. Plans for a dam began in 1921, and by 1927 the New Exchequer Dam was constructed on the Merced River with fully operational hydroelectric power facilities. Excess generated power was sold to the San Joaquin Power and Light Company, providing another source of income for the company.

Unfortunately for the Merced Irrigation District, between the months of October and March, the reservoir would remain empty, thus stopping the sale of excess hydroelectric power. Additionally, hydroelectric revenues dropped during a drought between 1928 and 1932. The result was catastrophic for the Merced Irrigation District, and by 1932 the district filed for bankruptcy. Through federal loans and Roosevelt's New Deal plan, the Merced Irrigation District regained economic stability, and by 1936 the company was once again operational (Dice 2010). From 1935 to 1937, the Merced Irrigation District gained access to funding through the New Deal's Reconstruction Finance Corporation, which allowed Merced Irrigation District to line canals and laterals throughout its system. Today, the Merced Irrigation District continues to manage a 1,000-square-mile watershed and provide energy services to residents of Merced County.

2.4.3 Agriculture in Merced County

By 1850, California had shed its territory status for full statehood, and the initial excitement generated by the gold rush had subsided. The fertile soil of the Merced region quickly attracted early agriculturalists who focused on crops, such as wheat, that could be "dry farmed." Vast herds of cattle grazed the open grasslands. Completion of the Central Pacific Railroad between Lathrop and Fresno in 1872 offered developers an easy way to attract potential residents into the Central Valley. Many families came to the valley to settle in colonies, where they could farm their own 20- or 40-acre plot of land. The extensive canal system established in the area allowed these colonies to develop far from natural waterways (Parker 1881; Wood 2013).

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3
METHODS

This chapter describes methods used to complete the cultural resource inventory of the Project area. This includes a records search to identify known cultural resources and previously completed studies within and adjacent to the Project area, archival research, Native American outreach, and intensive archaeological and built environment pedestrian surveys.

3.1 RECORDS SEARCH

At Æ's request, the CCaIC of the CHRIS at California State University, Stanislaus, performed a records search to identify previously recorded cultural resources and prior surveys within the Project area and surrounding 0.5-mile search radius. CCaIC staff consulted cultural resource location and survey base maps, reports of previous investigations, and cultural resource records (Appendix B).

3.2 ARCHIVAL RESEARCH

Prior to conducting a pedestrian archaeological survey, Æ's historians conducted background research to identify areas within the Project area where extant historic-aged buildings, structures, or objects might be present, or where archaeological deposits might exist. Desktop and online library research focused on historical newspapers, maps, aerial images, atlases, and photographs. Æ reviewed and compiled information from various sources including:

- General Land Office (GLO) plat maps (https://glorecords.blm.gov/default.aspx; 1854);
- GLO land patents (https://glorecords.blm.gov/search/default.aspx; 1869 and 1891);
- Aerial photographs, accessed through the Map Aerial Locator Tool maintained by California State University, Fresno (http://malt.lib.csufresno.edu/MALT/; 1950 and 1992);
- Aerial photographs accessed via HistoricAerials.com administered by NETRonline (historicaerials.com; 1946, 1957, 1958, 1984, 2005, 2009, 2018, and 2020);
- Images accessed via Google Maps Street View (August 2007 and November 2022);
- USGS topographic maps accessed via USGS topoView (https://ngmdb.usgs.gov/topoview/; Merced 1914, 1917, 1946, 1948, 1961, 1962, 2015, and 2018);
- Historical maps accessed via David Rumsey Map Collection (https://www.davidrumsey.com/; 1885 & 1886 *Irrigation Map of the San Joaquin Valley* by W. H. Hall);

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- Merced County Assessor's Office online parcel maps (https://apps.co.merced.ca.us/PublicApplets/pages/assessor/parcelmap.aspx; Book 61, Page 71);

- Historical newspapers accessed via Newspapers.com administered by Ancestry.com (https://www.newspapers.com/); and

- USGS topographic maps accessed via HistoricAerials.com administered by NETRonline (historicaerials.com; T1923, T1942, T1947, T1965, T1967, T1986, T2012, T2015, T2018, and T2021).

3.3 NATIVE AMERICAN OUTREACH

Pursuant to California PRC Section 5097.95, state and local agencies cooperate with and assist the NAHC in its efforts to preserve and protect locations of sacred or special cultural and spiritual significance to Native Americans. Æ contacted the NAHC to request a search of its Sacred Lands File (SLF) to identify Native American resources in the Project area and obtain the names and contact information for individuals knowledgeable of such resources.

The NAHC responded with its findings and attached a list of Native American tribes and individuals culturally affiliated with the Project area. Æ prepared and mailed an outreach letter to each of the contacts identified by the NAHC. The letter summarized the Project and requested information about known cultural resources within the Project area and surrounding region. Æ followed up with a telephone call to each contact to confirm the correspondence was received and to provide an opportunity for comment. Outreach with the Native American tribes and individuals is standard best practices to complete a cultural resource study and is not part of formal government-to-government consultation under Assembly Bill 52. Æ's record of correspondence is included in Appendix C.

3.4 ARCHAEOLOGICAL AND BUILT ENVIRONMENT FIELD SURVEYS

Æ Archaeologists Betsy Rapp, Ward Stanley, and Charles Pansarosa conducted an intensive archaeological pedestrian survey of the Project area, using parallel transects spaced 10–15 meters apart. Field crews documented information on the survey coverage and made observations regarding the ground visibility and other conditions on digital Survey123 Field Record forms. They took photographs of the Project area using an iPad camera.

In addition to the archaeological pedestrian survey, Æ's Architectural Historian Julio Olivares surveyed the Project area to identify historic-era built environment resources. Identified cultural resources were recorded and photo-documented using an iPad camera and digital Survey123 Field Record forms. Æ used an Arrow 100 Global Navigation Satellite System unit to collect spatial information. All field records and photographs are archived at Æ's office in Fresno, California. Complete documentation of cultural resources within the Project area is included in Appendix D.

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4
FINDINGS

This chapter provides results of the CCaIC records search, background research, Native American outreach, and pedestrian surveys, including observations of field conditions and cultural resources identified within the Project area.

4.1 RECORDS SEARCH

On July 18, 2024, the CCaIC responded to Æ's records search request (Records Search File No. 12990I). In their response, they identified 10 previous cultural resource investigations within the Project area and 11 previous investigations in the 0.5-mile search radius. However, upon further examination Æ discovered that three of the studies that were initially identified within the Project area (ME-02418, -04773, and -08444) were adjacent to the Project area rather than overlapping it. Thus, there have been 7 previous studies covering portions of the Project area and 14 studies within the search radius.

The records search also identified three previously recorded cultural resources within the Project area and nine previously recorded cultural resources within the 0.5-mile records search radius (Appendix B). These are discussed in further detail below.

4.1.1 Previous Cultural Resource Studies

Seven previous archaeological studies overlay the Project area, covering 100 percent of the subject property (Table 4-1; Appendix B). The most recent study occurred in 2008 in support of the Merced Gateway East project. All other studies were conducted more than 20 years ago.

Table 4-1
Previous Investigations in the Project Area and 0.5-Mile Search Radius

CHRIS Report No.	Author(s)	Year	Title
Within Project Area			
ME-03834	Laylander, D.	1999	*Department of Transportation Negative Archaeological Survey Report-Second Supplement, 10-MER-99, P.M. 10.5/12.5, E.A. 10-363100*
ME-04384	USR Corporation	2001	*Archaeological Survey Report, Merced Campus Parkway (Draft Technical Report, Federal Aid Project #RPHP21L-0484[001])*
ME-04385	USR Corporation	2001	*Archaeological Survey Report--Addendum 1, Merced Campus Parkway (Draft Technical Report, Federal Aid Project #RPHP21L-0484[001])*
ME-04772	Cardiff, D.B; Eastman, C; Hibbard, J; Huddleson, R; Levy, T; and Stillman, B.	1999	*Archaeological Survey Report for the Proposed Campus/Healy Interchange on California State Highway 99 from Owens Creek Bridge (P.M. 10.5) to Childs Avenue in Merced (P.M. 12.5), Merced County, 10-363100*
ME-04775	Eastman, B. and Hupp, J.	1999	*Historic Architectural Survey Report and Historic Resource Evaluation Report for MER-99 Mission/Healy Interchange, Merced, Merced County, California, 10-MER-99, P.M. 10.5/12.5, 10-363100*

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Table 4-1 (continued)
Previous Investigations in the Project Area and 0.5-Mile Search Radius

CHRIS Report No.	Author(s)	Year	Title
ME-06857	Wills, C.D.	2008	*Phase I Cultural Resources Assessment, Merced Gateway East Project, City of Merced, Merced County, California*
ME-06966	JRP Historical Consulting Services	2001	*Historic Resource Evaluation Report Ten Canals of the Merced Irrigation District Campus Parkway Project, Merced County, California*
Within 0.5-Mile Radius			
ME-00644	Napton, L.K.	1989	*Cultural Resources Investigation of the Alfarata Ranch, Merced County, California*
ME-02418	Napton, L.K.	1994	*Cultural Resources Investigations of the Proposed 359-Acre Weaver Area Annexation/Master Planned Community Project, Merced County, California*
ME-02759	Hatoff, B; Voss, B; Waechter, S; Wee, S; and Bente, V.	1995	*Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project; Final. [multivolume report]*
ME-02930	Jensen, P.	1996	*Archaeological Inventory Survey; Tracy to Fresno Longhaul Fiberoptics Data Transmission Line, Portions of Fresno, Madera, Merced, Stanislaus, and San Joaquin Counties, California.*
ME-03614	Laylander, D. and Silva, B.A.	1999	*Department of Transportation Negative Archaeological Survey Report-First Supplement; 10-MER-99, P.M. 10.5/12.5, EA 10-363100, Convert State Route 99 from Four-Lane Expressway to a Four-Lane Freeway*
ME-03786	Wilson, K. and Van Bueren T.M.	1999	*Historical Study Report for the Proposed Campus/Healy Interchange on California State Highway 99 in Merced, Merced County, California, 10-MER-99, Post Miles 10.5/12.5, EA 10-363100*
ME-04042	Pastron, A.G. and Brown, R.K.	2000	*Letter Report: Historical & Cultural Resource Assessment, Existing Telecommunications Facility, Site No. CV-504-03,1392 Healy Road, Merced County, California*
ME-04097	Laylander, D.	2000	*Department of Transportation Negative Archaeological Survey Report-Fourth Supplement: 10-MER-99, P.M. 10.5/12.5, K.P. 16.9/20.1, EA 10-363100, Convert State Route 99 from a Four-lane expressway to a Four-lane Freeway and to Construct an Interchange at Mission Road*
ME-04773	Caltrans District 10	1999	*Historic Property Survey Report: Mission Interchange Project, 10-MER-99, K.P. 16.9/20.1, P.M. 10.5/12.5, 10-363100*
ME-04776	Welch, L.	2000	*Supplemental Historic Resource Evaluation Report for MER-99 Mission/Healy Interchange, Merced, Merced County, California, 10-MER-99, P.M. 10.5/12.5, 10-363100*
ME-05420	Peak & Associates, Inc.	2004	*Cultural Resource Assessment for an Industrial Park Site, City of Merced, Merced County, California*
ME-06345	SWCA Environmental Consultants	2006	*Cultural Resources Final Report of Monitoring and Findings for the QWest Network Construction Project, State of California. SWCA Project No. 10715-180.*
ME-06839	Montastero, A.P. and Baloian, M. C.	2008	*Cultural Resources Survey for the Wilson-Oro Loma 115-kV Transmission Line Reconductoring Project, Merced County, California*
ME-08444	First Carbon Solutions	2016	*Draft Environmental Impact Report, Merced Gateway Master Plan, City of Merced, Merced County, California State Clearing House Number 2015101048*

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Five of the seven previously conducted studies within the Project area identified cultural resources. The most recent study was conducted by C. D. Wills of Michael Brandman Associates in 2008 in support of the Merced Gateway East project and covered the entirety of the Project area. Willis identified and recorded a historic-era residential and agricultural property (P-24-001930) at 3345 E. Gerard Avenue in the northern portion of the Project area. In 2001, JRP Historical Consulting Services evaluated 10 historic canals in the MID; one was the Doane Lateral (P-24-001886) along the eastern portion of the Project area. The other nine MID canals evaluated as part of the study are outside of the Project area and the surrounding 0.5-mile radius.

URS Corporation conducted a large, linear study in 2001 in support of the Merced Campus Parkway project. The study identified three cultural resources; none are the Project area or within a 0.5-mile radius. Additionally, the California Department of Transportation (Caltrans) conducted two studies in 1999 in support of State Route 99 interchanges at Campus/Healy and Mission/Healy, which covered a portion of the Project area. Between the two studies they identified 27 cultural resources; however, none of these 27 resources are within or adjacent to the Project area.

Three cultural resource studies have been conducted directly adjacent to the Project area. A 1994 study by Napton was negative for cultural resources and a 1999 study by Caltrans District 10 identified 29 cultural resources; none are adjacent to the Project area. A 2016 study by First Carbon Solutions resulted in the identification of a single resource—the MID (P-24-001909), which encompasses the Project area.

4.1.2 Previously Recorded Resources

The records search results returned three previously recorded resources within the Project area and nine previously recorded cultural resources within the 0.5-mile search radius (Table 4-2). Previously recorded resources within the Project area include the historical MID (P-24-001909); the historical Doane Lateral canal (P-24-001886), which is a component of the MID and a historic-era residential and agricultural property (P-24-001930).

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Table 4-2
Previously Recorded Cultural Resources within the Project Area and 0.5-Mile Search Radius

Primary	Trinomial	Age	Type
Within Project Area			
P-24-001886	CA-MER-456H	Historic	Structure
P-24-001909	—	Historic	District
P-24-001930	—	Historic	Building, Structure
Within 0.5-Mile Radius			
P-24-000097	—	Historic	Structure
P-24-000598	CA-MER-355H	Historic	Site
P-24-000602	CA-MER-359H	Historic	Building, Structure, Site, Other
P-24-000604	CA-MER-361H	Historic	Site, Other
P-24-000605	CA-MER-362H	Historic	Site
P-24-000614	—	Historic	Building
P-24-000615	—	Historic	Building
P-24-001712	—	Historic	Structure

Table 4-2 (continued)
Previously Recorded Cultural Resources within the Project Area and 0.5-Mile Search Radius

Primary	Trinomial	Age	Type
P-24-001713	—	—	Structure

The MID (P-24-001909) spans much of the northeast portion of Merced County and consists of ditches, canals, laterals, wells, pumping plants, dams, reservoirs, and hydroelectric facilities that serve farmers and domestic water users. Many of the canals and ditches that comprise the MID were privately built between 1870 and 1922. In 1919, the Merced Irrigation District was founded and began purchasing privately-owned irrigation systems and constructing new water conveyance systems. The MID has been recorded several times following its first recording by JRP Historical Consulting, LLC in 2007. The Merced County Built Environment Resource Directory, maintained by the California Office of Historic Preservation, lists the most recent recordation of the MID from 2020 with the status code of 6Y, "determined ineligible for NRHP listing by consensus through Section 106 process—Not evaluated for CRHR or local listing" (2024). While it is possible that the MID is eligible for listing in the CRHR at the state or local level, a formal evaluation of this resource is outside the scope of this study. The MID merely encompasses the Project area and none of its primary components are within the Project area. Because of this, the MID is not discussed in further detail in this study or included in the figures.

The Doane Lateral (P-24-001886) is within the boundary of the MID; however, it is not identified as a primary component of the district in previous evaluations. The lateral is an approximate 2-mile-long irrigation canal that borders the eastern side of the Project area and was constructed between 1922 and 1927 (Larson and Cannon 2000). JRP Historical Consulting Services recorded and evaluated the Doane Lateral and found that the canal did not appear to be eligible for listing in the National Register of Historic Places (NRHP) (Larson and Cannon 2000). The Merced County Built Environment Resource Directory lists this finding as receiving California State of Historic Preservation Office concurrence in 2002, designating it with status code of 6Y, "determined ineligible for NRHP listing by consensus through Section 106 process—Not evaluated for CRHR or local listing" (Office of Historic Preservation 2024). The Doane Lateral and an unnamed earthen ditch that branches from it were likely used to irrigate the residence and agriculture property (P-24-001930) recorded at 3345 E. Gerard Avenue in the northern portion of the Project area.

Recorded in 2006, P-24-001930 is described as a cluster of buildings and structures that may have served as a dairy operation, including a milking barn with two grain silos. The record notes a residential building associated with the dairy consisting of only two bedrooms and a living room; no kitchen, bathroom, or closets were observed. The record also notes a mobile home elevated on concrete blocks 300 feet northeast of the residential building, and a large concrete building foundation east of the barn. A subsurface concrete trough was southeast of the barn (Wills 2006). While no formal evaluation was included, the record indicates that the buildings do not appear to retain sufficient integrity to be considered eligible for listing in the NRHP or CRHR (Wills 2006).

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4.2 BACKGROUND RESEARCH

Æ consulted historical topographic maps, atlases, aerial photographs, land patents, and newspapers to determine the ownership history of the Project area and verify the presence of historic-age resources. The review revealed minimal development in the Project area and moderate development in the surrounding area over the last 100 years.

4.2.1 Property-Specific History

The 1854 GLO plat map shows no development in or around the Project area, though sloughs are present in the area. The earliest available record of the Project area is an 1869 GLO land patent issued to Isaac Friedlander. No further records of Friedlander were found in the archives. According to an 1885 irrigation map, the Project area was owned by an individual with the surname Fancher. An early water conveyance feature is also shown in the map trending east to west through the Project area. This feature is not in the same alignment as the current water conveyance features present in the Project area today. By 1891, another GLO land patent designates George Davis as owning the southern half of the Project area.

The next available record of the Project area is a USGS topographical map, the earliest available, from 1914. However, the map does not show ownership and does not display any significant changes to the land since the 1885 irrigation map. The 1914 Merced topographic map shows several waterways transecting the Project area, though they are different from the current canal system. Gerard and Mission avenues are in their current alignment and a single building is shown west of the northern portion of the Project area.

An aerial photograph from 1946 first shows the Doane Lateral in its current alignment along the eastern border of the Project area, as well as the unnamed earthen ditch that transects the Project area in its current alignment. Furthermore, north of the unnamed earthen ditch, approximately five residential and agricultural buildings and structures are visible, presumably the residential and agricultural property recorded as P-24-001930. The fields surrounding the ditches are cultivated with multiple crop varieties.

The Doane Lateral was constructed as an earthen ditch by the Merced Irrigation District between 1922 and 1927. It was sometimes mistakenly referred to as the Hartley Lateral as this is the name of the structure where its water is sourced (Larson and Cannon 2000). Likewise, in recent years, it has incorrectly been referred to as the Farmdale Lateral, which is a separate canal that crosses the Doane Lateral directly south of the Project area.

Historical newspapers attribute the property ownership at 3345 E. Gerard Avenue (P-24-001930) to Solomon Elias Price by 1926 (Merced Express 1926). Price lived on the property with his wife and children, and he used the land for fruit cultivation. Price listed the property for sale in 1934, and it included a family home, barn, tank, tank house, and a windmill, as well as an almond orchard and alfalfa field (Merced Sun-Star 1934; U.S. Census Bureau 1930). Chain of title records indicate that property was deeded to Oscar B. and Mary B. Chaney by the Bank of America National Trust and Savings Association in 1938 (Environmental Data Resources 2024). Census data details that Oscar Chaney lived at this property with his family and used the land for his farming operations (U.S. Census Bureau 1940). The 1946 USGS topographical map of Merced confirms this development in the Project area. A house and several auxiliary buildings

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are present in the northern portion of the Project area along East Gerard Avenue (P-24-001930). The residence and agricultural building, as well as the Doane Lateral, are on the 1946 topographic map.

A 1950 aerial photograph points to further development of the Project area, showing an additional six auxiliary buildings and structures in the same location (P-24-001930). Historical newspapers suggest the property retained the residential home, barn, and auxiliary buildings and structures, but the fruit fields were converted into pastureland for dairy farming. In 1954, the parcel was deeded to Mildred Brier Green (Environmental Data Resources 2024). By 1957, only the largest buildings remain, likely the residential home and barn (Figure 4-1).

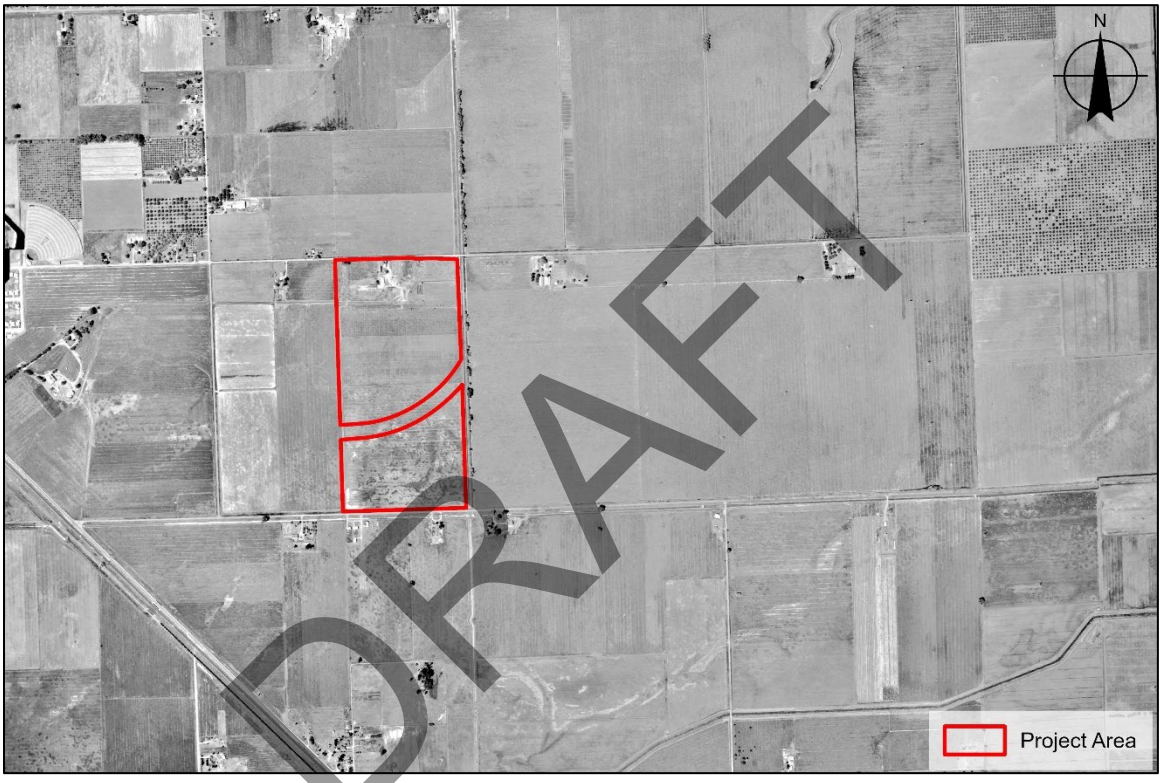

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Figure 4-1 1957 aerial photograph with the Project area indicated in red.

Green was a well-known businesswoman, who along with her husband, Alfred C. Green managed the Al C. Green Insurance Company (Merced Sun-Star 1951; U.S. Census Bureau 1950). She also served as the president of the women's division of the Merced City Chamber of Commerce and as the auditor of the local Soroptimists club (Merced Sun-Star 1953, 1954). Census data suggests that Green and her husband also worked as landlords who hosted several lodgers (U.S. Census Bureau 1950). No archival evidence indicates that Green ever resided at the 3345 E. Gerard Avenue property, and it is likely that she rented it to other occupants.

Minimal changes to the Project area are observed in the following decades. Historical newspapers note that the property was occupied by Paul R. Quario Sr. by 1964 and then by Kenneth Jones by 1969 (Merced Sun-Star 1964, 1969). Additional archival research did not return further information about the two men. In 1974, Green deeded the parcel to Larry A. and

Janice E. Brookin, who owned the parcel until 1999 when it entered into the Larry Arthur Brookin Revocable Trust. The Trust deeded the parcel to B & B Associates, LLC in 2005, which deeded it to Merced Gateway, LLC in 2008 (Environmental Data Resources 2024).

No significant changes occur in the area surrounding the Project area until 2005, when housing developments are shown north of the Project area on aerial photographs. In 2006, P-24-001930 was still extant and included a residential building, dairy milking barn with a storage shed, two grain silos, and a concrete foundation pad (Wills 2006). All historic-era residential buildings and structures within the Project area were removed between 2006 and 2009. The Project area appears to serve as agricultural land until 2009, when aerial photographs show vacant land, with no buildings or structures remaining, and the construction of Campus Parkway in process. By 2020, the segment of the Doane Lateral north of Campus Parkway within the Project area is undergrounded. Since the completion of Campus Parkway in 2010, no further significant changes are evident in the Project area.

4.3 NATIVE AMERICAN OUTREACH

Æ requested a search of the NAHC's SLF and a tribal contact list on July 18, 2024. The NAHC provided a response on July 23, 2024, and stated that its search of the SLF was negative for the presence of tribal cultural resources in the Project area. The NAHC also supplied a list of individuals to be contacted for information regarding locations of sacred or special sites of cultural or spiritual significance in the Project area.

On July 30, 2024, Æ sent a letter describing the Project and its location to:

- Chairperson Valentin Lopez of the Amah Mutsun Tribal Band;
- Chairperson Ed Ketchum of the Amah Mutsun Tribal Band;
- Chairperson Fred Beihn of the North Fork Rancheria of Mono Indians;
- Environmental Heritage Manager Mary Stalter of the North Fork Rancheria of Mono Indians;
- Tribal Compliance Officer Timothy Perez of the Northern Valley Yokut Ohlone Tribe;
- Chairperson Katherine Perez of the Northern Valley Yokut Ohlone Tribe;
- Chairperson Sandra Chapman of the Southern Sierra Miwuk Nation;
- Director of Cultural Resource Preservation Jazzmyn Gegere of the Southern Sierra Mewuk Nation;
- Chairperson Neil Peyron of the Tule River Indian Tribe;
- Environmental Department Kerri Vera of the Tule River Indian Tribe; and
- Chairperson Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band.

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Æ also distributed these letters via email on July 30, 2024, and followed up with all tribes by telephone on September 3, 2024. To date, Æ has received two responses: Ashley Pomona of the North Fork Rancheria of Mono Indians responded by email on August 8, 2024, deferring interest to the Southern Sierra Miwuk Nation. On September 4, 2024, Jazzmyn Gegere responded by email stating that the Southern Sierra Miwuk Nation has no tribal cultural resource concerns for this project and defers to any consulting tribes. A log detailing the outreach efforts and responses is provided in Appendix C. Æ did not facilitate government-to-government consultation on behalf of the City.

4.4 ARCHAEOLOGICAL SURVEY FINDINGS

Æ conducted an intensive archaeological pedestrian survey of the Project area in two stages. On August 28, 2024, Æ Archaeologists Betsy Rapp and Chuck Pansarosa surveyed 60.1 acres (84.4 percent) of the 71.18-acre Project area (Figure 4-2). The northernmost 11.1-acres of the Project area, where P-24-001930 was originally recorded, was inaccessible and not surveyed at this time due to dense vegetation over 5 feet tall and poor ground visibility. Visibility in the remaining Project area also was generally poor, averaging 5 to 10 percent, due to dense dried grass (Figure 4-3).

Æ Associate Archaeologist Ward Stanley returned to the Project area on November 8, 2024, to check accessibility and ground cover in the previously inaccessible 11.1-acres in the northern portion of the Project area. Stanley found the area still covered by tall grass and dense thistle (Figure 4-4) but, despite poor ground visibility, was able to completely survey the remaining acreage. Stanley closely inspected the area previously recorded as P-24-001930 looking specifically for artifacts and features associated with the previous farm building. He noted a 393.21 by 287.47 foot patch of undulating and raised ground where the previous structures had been recorded. Additionally, Stanley observed a 90 by 20 by 6 foot depression directly south of the disturbed footprint (Figure 4-5). The purpose of this depression is unknown. Æ prepared an updated DPR form to document that the resource is no longer extant and no artifacts, structural remnants, or other associated cultural debris remain (Appendix D).

During the survey, Æ noted various impacts to the Project area including disturbance to the natural topography from decades of agricultural activity and vegetation management efforts. Also evident is recent disturbances from ground squirrel burrowing. Æ observed a modern drainage ditch with a standpipe in the southwest corner of the Project area that was likely used to irrigate crops when the Project area was actively farmed. Æ also observed a single, potentially historic-era straight razor in the southern portion of the Project area. It was not formally recorded as a cultural resource due to a lack of provenience and diagnostic features. No cultural resources were observed during the pedestrian survey.

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Figure 4-2 Survey coverage and cultural resources within the Project area.

Figure 4-3 Ground visibility in the Project area, facing southwest.

Figure 4-4 Tall grass and thistle in the area recorded as P-24-001930 in the northern portion of the Project area, facing south.

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Figure 4-5 Depression of unknown purpose in the northern portion of the Project area, facing northwest.

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4.5 BUILT ENVIRONMENT SURVEY FINDINGS

Æ recorded two historic-age structures: the Doane Lateral and an unnamed earthen ditch. Physical descriptions of both structures are provided below. While the north to south trending Doane Lateral is immediately adjacent to the Project area, Æ recorded and evaluated the resource, at the request of Lennar Homes, to facilitate potential future development along this linear feature.

4.5.1 Doane Lateral

The Doane Lateral (P-24-001886/CA-MER-456H) trends north to south approximately 2 miles, heading at the Hartley Lateral 5,109 feet north of the Project area and terminating at Vassar Creek 2,830 feet south the Project area. A 2,538-foot-long segment of the Doane Lateral borders the outside of the Project area to the east and is bisected by Campus Parkway. North of Campus Parkway, approximately 945 feet of the segment is underground (Figure 4-6), while 1,283 feet of the segment south of the parkway is aboveground (Figure 4-7). The aboveground portion of the segment is an open, earthen ditch approximately 10 feet wide from bank to bank. This portion displays severe vegetation intrusion, with shrubs and moderately sized trees scattered throughout (Figure 4-8). Several concrete culverts are within the west bank of the segment, and several standing metal pipes are adjacent to the east bank (Figure 4-9).

Figure 4-6 Undergrounded lateral north of Campus Parkway, facing north.

Figure 4-7 Aboveground portion of the lateral with evidence of vegetation intrusion, facing north.

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Figure 4-8 Trees growing in lateral and view of concrete culvert, facing east.

Figure 4-9 Metal post with debris and manhole, facing northeast.

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4.5.2 Unnamed Earthen Ditch

The unnamed earthen ditch runs east to west near the north end of the Project area. Currently, the full length of the ditch is approximately 1.15 miles long, although only 1,932 feet of the east end is aboveground. It is headed at the recorded Doane Lateral along the east boundary of the Project area, and continues for approximately 4,750 feet west and south, where it terminates underground at the Farmdale Lateral west of the Project area.

A 1,353-foot-long segment of the aboveground portion of unnamed earthen ditch transects the northern Project area (Figure 4-2). A 116-foot-long segment is diverted underground through a concrete culvert, visible at the west end of the diversion, to allow pedestrian and vehicle access between the northern and southern parcel (Figure 4-10). The ditch presents severe vegetation intrusion obstructing the view of the bed and banks of the ditch (Figure 4-11). Another concrete culvert is within the bank of the ditch toward the west end of the segment (Figure 4-12). A partially downed post and wire fence borders the west edge of the parcel (Figure 4-13).

Figure 4-10 Culvert at west end of the underground diversion, left photo facing northeast.

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Figure 4-11 Earthen ditch with severe vegetation intrusion from east end of the segment, facing west.

Figure 4-12 Concrete culvert on the bank of the segment, facing northeast.

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Figure 4-13 Partially fallen fence along west side of the parcel, facing south.

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5
HISTORIC RESOURCE EVALUATIONS

This chapter presents the CRHR evaluation criteria and eligibility evaluations for the recorded segments of the two extant resources, Doane Lateral (P-24-001886) and an unnamed earthen ditch, in the Project area. The details of the evaluations are provided below while completed DPR 523-series forms for each resource are provided in Appendix D.

5.1 EVALUATION CRITERIA

To determine whether the Project will have a significant impact on a potential historical resource, cultural resources within the Project area must be evaluated for eligibility to be listed in the CRHR. If a resource qualifies as a historical resource, the potential for the Project to cause a significant adverse change to the qualities of the resource that make it eligible will require assessment, and the impacts may be subject to mitigation to reduce the impacts to less than significant. Cultural resources that are not eligible for listing in the CRHR do not require further consideration. The National Park Service (NPS) has established a process for identifying, evaluating, and assessing effects to historic properties (i.e., cultural resources eligible for listing in the NRHP). Practically speaking, determinations made within a federal regulatory context are almost always universally accepted for purposes of identifying, evaluating, and assessing impacts under CEQA. Thus, the NPS guidelines are applicable herein.

The first threshold in this process is to ascertain whether a site or built environment resource within the Project area is old enough to be considered a historical resource and, accordingly, eligible for listing in the CRHR. To be eligible for listing in the CRHR, an archaeological or built environment resource must be 45 years old or older. Documentation of resources less than 45 years old also may be filed if those resources have been formally evaluated, regardless of the outcome of the evaluation (Office of Historic Preservation 1995). If a resource is found to meet this age criterion, the following sequential steps apply:

- Classifying the resource as a district, archaeological site, building, structure, or object;
- Determining the theme, context, and relevant thematic period of significance with which the resource is associated;
- Determining whether the resource is historically important under a set of significance criteria; and
- If significant, determining whether the resource retains integrity.

In California, historical resources are usually classified according to *Instructions for Recording Historical Resources*, published by the California Office of Historic Preservation in 1995. This handbook contains listings of resource categories for historical and precontact sites as well as standing structures. For built environment resources, it is additionally helpful to define a property's type (e.g., commercial vs. residential, urban vs. rural, agricultural vs. industrial).

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The significance of a historical resource is best understood and judged in relation to a historic context (Office of Historic Preservation 1995). The evaluation process essentially weighs the relative importance of events, people, and places against the larger backdrop of history. Within this process, the context provides the comparative standards and/or examples as well as the theme(s) necessary for this assessment. According to the NPS (1997), a theme is a pattern or trend that has influenced the history of an area over time. A theme is typically couched in geographic (i.e., local, state, or national) and temporal terms to focus and facilitate the evaluation process.

Significance is based on how well a subject resource represents one or more themes through its associations with important events or people and/or through its inherent qualities. A resource must demonstrate more than just association with a theme; it must be a good representative of the theme, capable of illustrating the various thematic elements of a time and place in history.

According to the CEQA Guidelines, for a historical resource to be eligible for listing in the CRHR, it must meet at least one of the criteria defined in California PRC 5024.1(c):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2. Is associated with the lives of persons important in our past.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important in history or prehistory.

If a resource does not possess historical significance, a discussion of integrity is not required.

5.2 ASPECTS OF INTEGRITY

To be included in the CRHR, a resource must not only possess historical significance but also the physical means to convey such significance—that is, it must possess integrity. Integrity refers to the degree to which a resource retains and expresses its original character. To facilitate this assessment, the NPS (1997) provides the following definition of the seven aspects of integrity. These aspects of integrity have been adopted by the CRHR.

1. Location is the place where the historic property was constructed or the place where the historic event occurred;

2. Design is the combination of elements that create the form, plan, space, structure, and style of a property;

3. Setting is the physical environment of a historic property;

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4. Materials are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property;

5. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

6. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time; and

7. Association is the direct link between an important historic event or person and a historic property.

5.3 CRHR EVALUATIONS

Æ evaluated the recorded segments of the Doane Lateral and an unnamed earthen ditch for CRHR eligibility, which entailed an assessment of historical significance and a discussion of integrity, if applicable.

5.3.1 Doane Lateral

As detailed in Section 4.2, the Doane Lateral (P-24-001886) was constructed by the Merced Irrigation District between 1922 and 1927 (Larson and Cannon 2000:2). The Doane Lateral trends north to south approximately 2 miles, heading at the Hartley Lateral and terminating at Vassar Creek 2,830 feet south of the Project area. The Doane Lateral is incorrectly labeled as a branch of the Farmdale Lateral on a 2018 USGS topographical map and on Google Maps (U.S. Geological Survey 2018). However, it is labeled as the Doane Lateral in the historical map records, as well as the Merced County Assessor's Parcel book, revised in 2024 (Merced County Department of the Assessor 2024). The Doane Lateral was first recorded on DPR Primary Record and Linear Feature Record forms in 1999 by the Archaeological Resource Center at California State University, Sacramento; however, this recordation did not include an eligibility evaluation (Pierce et al. 1999). The lateral was recorded and evaluated the following year by JRP Historical Consulting, LLC, and was found to be ineligible for listing in the NRHP (Larson and Cannon 2000). The California State of Historic Preservation Office concurred with this finding in 2002 (Office of Historic Preservation 2024).

Although the Doane Lateral was found ineligible for the NRHP with concurrence from the State Historic Preservation Office, it is possible that the resource could still be eligible for the CRHR due to its significance at a state or local level. To ascertain whether the Doane Lateral possesses historical significance, a formal discussion of the evaluation criteria is required. For this study, the CRHR eligibility is evaluated for the 2,538-foot-long recorded segment of the lateral starting immediately south of East Gerard Avenue and terminating immediately north of East Mission Avenue. However, to evaluate the CRHR eligibility of the segment, the historical significance of the entire resource, of which it is a part, must be considered.

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5.3.1.1 Significance

Criterion 1—Associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. The Doane Lateral was constructed between 1922 and 1927 and was one of dozens of canals and ditches constructed by the Merced Irrigation District following its establishment in 1919 (Larson and Cannon 2000; McSwain 1978). The Doane Lateral is not representative of the earliest ditches in the region; archival evidence suggests several other canals were constructed in the area as early as the 1870s (McSwain 1978). The Doane Lateral is a tertiary distribution channel that aided in the distribution of water to individual agricultural parcels in its immediate area, but did not play a critical role in bringing irrigation to the surrounding area. Headed at the Hartley Lateral, the Doane Lateral is not a primary artery within the area or the larger MID system. No evidence was found to suggest that it irrigated parcels of particular significance to the greater community. Therefore, the size and relative irrigation impact of the Doane Lateral to the Merced region can be considered minor when compared to larger and earlier water conveyance systems within the area such as the Fairfield Canal or the Atwater Canal. The Doane Lateral is not considered significant under Criterion 1.

Criterion 2—Associated with the lives of persons important to local, California, or national history. Archival research found no evidence to suggest that the Doane Lateral is directly linked to individuals significant in the history of the Merced area. Review of regional histories and historical irrigation maps did not reveal any information about the recorded segment or individuals associated with its construction. The Doane Lateral was likely named for an individual who had rights to its water or owned land adjacent to the lateral. Archival research shows that several individuals with the surname Doane resided within Merced County during the years of the lateral's construction, none of whom appears to have held a prominent position in the community. As such, no association with a historically significant individual could be established. For this reason, the Doane Lateral is not considered significant under Criterion 2.

Criterion 3—Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values. Significance under Criterion 3, when applied to canals, ditches, and similar linear structures, is measured by distinctive or innovative design, methods of construction, or involvement of a historically significant builder or engineer. Archival research uncovered no information about the original dimensions of the channel (i.e., its shape, width, depth, etc.) or related features within the Doane Lateral. At present, the recorded segment of the Doane Lateral is substantially modern in appearance, with only the southern part of the segment remaining aboveground. The Merced Irrigation District is credited with the engineering and construction of the Doane Lateral (Larson and Cannon 2000). However, the lateral is not representative of the district's largest or most impressive works; rather, it is one of many smaller water conveyance structures created by the district throughout its history. As such, the Doane Lateral does not represent the work of a master engineer or builder. The lateral traverses level terrain that did not pose noteworthy engineering challenges for the irrigation company or its contractors. The Doane Lateral is not considered significant under Criterion 3.

Criterion 4—Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation. Criterion 4 applies to built

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environment resources if further study has the potential to yield information that cannot be obtained from other sources. However, Doane Lateral is a commonplace example of a ubiquitous resource type in California and has been well-documented. In its current form, the lateral is substantially contemporary in appearance. Æ has exhausted available sources and no additional information could be gleaned from subsequent field visits. Therefore, Æ does not anticipate that any additional information can be identified that would prove the resource to be significant. The Doane Lateral is not considered significant under Criterion 4.

5.3.1.2 Eligibility

A discussion of integrity is not required because the resource does not possess historical significance. Because Doane Lateral does not possess significance under the CRHR criteria for evaluation, the 2,538-foot-long segment within the Project area is ineligible for listing in the CRHR and does not qualify as a historical resource for the purposes of CEQA.

5.3.2 Unnamed Earthen Ditch

As detailed in Section 4.2, the east to west trending, unnamed earthen ditch first appears through this parcel as early as 1885 (Hall 1885). However, it is not until 1946 that archival evidence shows the ditch in its present-day alignment (NETROnline 2024). In 1946, the ditch was entirely aboveground and open, extending from the east end of the Project area to Doppler Road, 4,377 feet southwest of the Project area. Currently, the full length of the ditch is approximately 1.15 miles long, although only 1,932 feet of the east end is aboveground. Today, the ditch heads at the Doane Lateral and terminates underground at the Farmdale Lateral.

To ascertain whether the unnamed earthen ditch possesses historical significance and has the potential to be eligible for inclusion in the CRHR, a formal discussion of the evaluation criteria is required. For this study, the CRHR eligibility is evaluated for the 1,353-foot-long recorded segment of the ditch extending east to west from the Doane Lateral to the Project area's western boundary. However, to evaluate the CRHR eligibility of the segment, the historical significance of the entire resource, of which it is a part, must be considered.

5.3.2.1 Significance

Criterion 1—Associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. The unnamed earthen ditch is first shown in its current alignment by 1946; however, an east to west oriented ditch was depicted, in a different alignment, as early as 1885 (Hall 1885; NETROnline 2024). The unnamed earthen ditch was likely one of dozens of canals and ditches established by private agricultural parcel owners during the late 1800s to early 1900s. Research did not reveal that it played a critical role in bringing irrigation to the surrounding area. It merely aided in the distribution of water to individual agricultural parcels in its immediate area. No evidence suggests that the ditch irrigated parcels of particular significance to the greater community. The size and relative irrigation impact of the ditch to the Merced region can be considered minor when compared to larger and earlier water conveyance systems within the area. Furthermore, no archival evidence was found to suggest it was built, owned, or operated by the Merced Irrigation District. Therefore, the unnamed earthen ditch is not considered significant under Criterion 1.

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Criterion 2—Associated with the lives of persons important to local, California, or national history. Archival research found no evidence to suggest that the unnamed earthen ditch is directly linked to individuals significant in the history of the Merced area. Review of regional histories and historical irrigation maps did not reveal any information about the ditch or individuals associated with its construction. The ditch was not designated by name on any available maps. Ownership records related to the parcel containing the recorded ditch segment were not available for the years the ditch was constructed or realigned, so no direct association with an individual to the ditch could be established. For this reason, the unnamed earthen ditch is not considered significant under Criterion 2.

Criterion 3—Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values. Significance under Criterion 3, when applied to canals, ditches, and similar linear structures, is measured by distinctive or innovative design, methods of construction, or involvement of a historically significant builder or engineer. Archival research uncovered no information about the original dimensions of the channel (i.e., its shape, width, depth, etc.) or related features within the unnamed earthen ditch. At present, the ditch is largely overgrown and appears abandoned. No archival evidence revealed that any individual engineer or builder was associated with the construction of the ditch. As such, the ditch does not represent the work of a master engineer or builder. The ditch traverses level terrain that did not pose noteworthy engineering challenges for the irrigation company or its contractors. The unnamed earthen ditch is not considered significant under Criterion 3.

Criterion 4—Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation. Criterion 4 applies to built environment resources if further study has the potential to yield information that cannot be obtained from other sources. However, the unnamed earthen ditch is a commonplace example of a ubiquitous resource type in California that has been well-documented. Æ has exhausted available sources and no additional information could be gleaned from subsequent field visits. Therefore, Æ does not anticipate that any additional information can be identified that would prove the resource to be significant. The unnamed earthen ditch is not considered significant under Criterion 4.

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5.3.2.2 Eligibility

A discussion of integrity is not required because the resource does not possess historical significance. The unnamed earthen ditch does not possess significance under the CRHR criteria for evaluation, and the recorded segment is recommended ineligible for listing in the CRHR. Therefore, it does not qualify as a historical resource for the purposes of CEQA.

6
SUMMARY AND MANAGEMENT RECOMMENDATIONS

At the request of Lennar, Æ conducted a cultural resource study for the proposed Merced Gateway Project in the city of Merced. The Project will involve the construction of a 562-unit, single-family home community on 71.18 acres of land that is currently vacant. Æ conducted background research, obtained a records search from the CCaIC, requested a search of the NAHC's SLF, conducted outreach to local tribal representatives, and preformed intensive archaeological and historic built environment pedestrian surveys of the Project. Additionally, Æ evaluated the historic significance of two historic-era built environment resources for CRHR eligibility.

6.1 SUMMARY

The records search conducted by the CCaIC reported three cultural resources within the Project area and nine historic-era resources within the 0.5-mile search radius. Additionally, the CCaIC identified 7 cultural resources investigations that have occurred within the Project area (overlapping the entirety of the Project area), and 14 investigations have been conducted within the 0.5-mile search radius.

The NAHC's SLF search did not identify any previously recorded tribal resources within or near the Project area. Æ reached out to the interested individuals and tribal communities on the NAHC contact list. Formal government-to-government consultation under Assembly Bill 52 will be conducted by the City. No additional information regarding sensitive or sacred sites was obtained through Æ's Native American outreach efforts.

Æ conducted an archaeological and historic built environment surveys of the entire 71.18-acre Project area. A potentially historic-era straight razor was observed in the southern portion of the Project area but was not recorded due to a lack of provenience or diagnostic features. No previously unrecorded historical or precontact archaeological resources were observed during the pedestrian survey. Field crews confirmed the previously recorded residential and agricultural property (P-24-001930) is no longer extant and was removed sometime between 2006 and 2009. Although no associated surface materials were identified during the survey, ground disturbance from the demolition of the buildings and structures is still visible. P-24-001930 has not been formally evaluated, but the previous recordation notes that the building and structures did not appear to retain enough integrity to be considered eligible for listing in the NRHP and CRHR Wills (2006). Æ did not conduct additional studies as no remains of P-24-001930 exist.

Æ's inventory resulted in the identification of two segments of historic-era built environment resources within the Project area—a 2,538-foot-long segment of the Doane Lateral and a 1,353-foot-long segment of an unnamed earthen ditch. Both resources were evaluated for CRHR eligibility and found ineligible for listing because they do not possess significance under the CRHR criteria for evaluation and, therefore, do not qualify as historical resources for the purposes of CEQA. No further action is recommended for the management of these resources. In conclusion, Æ's cultural resource study found no historical resources that could be impacted by the proposed Project.

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6.2 RECOMMENDATIONS

Although Æ's study did not identify historical resources within the Project area, general recommendations are provided below in the event that unanticipated cultural materials are discovered during ground-disturbing activities.

6.2.1 Inadvertent Discoveries

Although Æ does not anticipate any subsurface deposits associated with P-24-001930 will be uncovered during construction, should buried artifacts or subsurface features such as building foundations, privies, or other remains be discovered during ground disturbance in the vicinity of the non-extant dairy, or elsewhere in the Project area, a temporary work stop within 50 feet of the find shall occur until a qualified archaeologist can evaluate the significance of the resource and recommend appropriate mitigation measures.

Preservation in place is the preferred manner of mitigating impacts to archaeological sites (CCR Section 15126.4[b][3][A]). However, if preservation in place is not feasible, project redesign may be required to avoid impacts to significant cultural resources (i.e., historical resources; CCR Section 15126.4[b][3][B]). If it is demonstrated that a historical resource cannot be avoided, the qualified archaeologist shall develop mitigation practices in consultation with the City which may include data recovery or other appropriate measures. Construction can recommence based on the direction of the qualified archaeologist and with the City's concurrence (CCR Section 15126.4[b][3][C]).

The City shall consult with interested Native American representatives in determining appropriate mitigation for unearthed cultural resources if the resources are precontact or Native American in nature.

The qualified archaeologist shall prepare a report documenting any further studies, excavations, and/or additional mitigation of the resource(s). If the resource(s) is more than 50-years old, a DPR form must be completed and/or updated and filed with the City and the CCaIC along with a copy of the final report.

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6.2.2 Inadvertent Discovery of Human Remains

Æ advises that in the event human remains are uncovered during Project activities, the Merced County Coroner is to be notified to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the remains are identified to be those of a Native American person, California Health and Safety Code 7050.5 requires that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California PRC 5097.98.

7
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APPENDIX A

Personnel Qualifications

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Applied EARTHWORKS Inc.

ANNA HOOVER

Principal Archaeologist

Areas of Expertise

- Cultural resources management
- Prehistoric archaeology of southern California
- Indigenous archaeology and Native American/descendant community coordination
- Federal, state, local environmental laws and regulations
- Training, capacity building
- Traditional Cultural Property and Landscape analysis

Years of Experience

- 24

Education

M.S., Anthropology, focus Archaeology, 2003, University of California, Riverside

B.S., Anthropology, 2000, University of California, Riverside

B.A., Linguistics, 2000, University of California, Riverside

A.A., English, 1996, Long Beach City College

Registrations/Certifications

- Registered Professional Archaeologist 28576661 (current)
- Cultural Consultant, Riverside County #171 (current)

Permits/Licensure

- Field Director, California BLM Statewide Cultural Resources Use Permit CA-21-21

Professional Associations

- Society of California Archaeology

Professional Experience

2023–	Principal Archaeologist, Applied EarthWorks, Inc.
2020–2022	Senior Archaeologist, Applied EarthWorks, Inc.
2017–2023	Senior Ethnoarchaeologist, Cultural Geographics Consulting
2007–2017	Deputy Tribal Historic Preservation Officer, Pechanga Band of Luiseño Mission Indians
2001–2015	Archaeological Assistant, San Bernardino County Coroner
2002–2007	Senior Archaeologist, L&L Environmental, Inc.

Technical Qualifications

Ms. Hoover has more than 24 years of experience in archaeological, cultural, and tribal resource management in southern California, Alta and Baja California, and Yucatan, Mexico. Ms. Hoover has collaborated with governmental agencies, environmental consultants, and indigenous communities to develop sustainable and practical applications for the identification and preservation of archaeological and tribal cultural resources, including landscapes and large, geographical features. As a capable Project Manager, she has coordinated dozens of CRM projects during all phases of development, including managing logistics and communications with various clients, lead agencies, Tribal communities, and project staff. Ms. Hoover is the designated archaeologist of record for three Native American Tribal Historic Preservation Offices (THPOs) in southern California.

Ms. Hoover has authored, co-authored, reviewed, and contributed to hundreds of California Environmental Quality Act (CEQA), Section 106 of the National Historic Preservation Act (NHPA), and National Environmental Policy Act (NEPA) technical reports; Programmatic, Memoranda, and Master Agreements; THPO development applications and associated tribal ordinances and historic preservation guidance; ethnographic studies and National Register of Historic Places eligibility forms; and other compliance and mitigation documents.

Ms. Hoover has presented collaborative projects, personal research, cultural resources education, and environmental regulation guidance trainings to a wide variety of audiences, including topics such as AB 52, SB 18 and CEQA guidance, cultural and tribal consultation best practices, and Tribal Monitoring Program trainings. She has contributed to CalTHPO organizational committees, participated in development of California and Federal archaeological and tribal consultation policies, and contributed to a published book on Tribal GIS applications.

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Applied EARTHWORKS Inc.

CARLOS VAN ONNA

Principal Architectural Historian

Areas of Expertise

- Cultural resource management
- Architectural history
- Historic preservation

Years of Experience

- 12

Education

Ph.D. candidate, Architectural History, Utrecht University

M.A., Architectural History and Historic Preservation, Utrecht University, 2010–2011

B.A., Art History, Utrecht University, 2007–2010

Professional Experience

2023–	Principal Architectural Historian, Applied EarthWorks, Inc., Hemet, California
2023	Senior Architectural Historian, PaleoWest, LLC, Los Angeles, California
2022–2023	Senior Planner, Office of Historic Preservation, City of Dallas, Texas
2019–2021	Senior Architectural Historian, Applied EarthWorks, Inc., Fresno, California
2017–2019	Editor/Translator, SDI Media, Los Angeles, California
2016–2017	Subcontractor, GPA Consulting, Los Angeles, California
2015–2016	Project Manager, City of Amsterdam, The Netherlands
2014–2015	Visiting Scholar, Columbia University, New York
2011–2014	Advisor on Cultural History and Urban Development, City of Amsterdam, The Netherlands

Technical Qualifications

Mr. van Onna has been involved in cultural resources management since 2011. His areas of expertise include built environment investigations, preparation of historic resource evaluation reports, and other required documentation for cultural resource management projects. As a Principal Architectural Historian for Applied EarthWorks, Mr. van Onna meets the Secretary of the Interior's professional qualification standards in architectural history. He has prepared technical reports for historical built environment resources to satisfy compliance requirements under the National Historic Preservation Act (NHPA) Section 106 and the California Environmental Quality Act (CEQA), including significance evaluations and eligibility recommendations for inclusion in the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). Mr. van Onna has previously worked for the City of Amsterdam, Netherlands, coordinating its Municipal Landmarks Project and completing numerous built environment surveys, studies, and historical significance assessments. More recently, he worked for the city of Dallas as a senior planner in the Office of Historic Preservation. At Applied EarthWorks, he leads built environment studies, provides guidance and assistance to project managers and staff, and conducts review of technical documents. Additional skills include archival research, architectural photography, editing, and quality assurance. Through his pursuit of a doctoral degree at Utrecht University, he explores the role of historic preservation in urban public spaces in the United States.

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NICOLE SAENZ

Staff Anthropologist

Areas of Expertise

- Forensic anthropology
- Exhumations
- Human osteology
- Faunal analysis/zooarchaeology
- Project administration

Years of Experience

- 7

Education

M.S., Forensic Anthropology, Boston University Chobanian and Avedisian School of Medicine, 2023

B.A., Anthropology, University of California, Santa Cruz, 2012

Professional Associations

American Association of Biological Anthropologists

Professional Experience

2023–	Staff Anthropologist, Applied EarthWorks, Inc.
2022–	Forensic Anthropology Consultant and Peer Reviewer, Puerto Rico Institute of Forensic Sciences
2022–2023	Field Technician, Applied EarthWorks, Inc.
2008–2012	Zooarchaeology Preparations and Curation Intern, University of California, Santa Cruz

Technical Qualifications

Ms. Saenz is a Staff Anthropologist at Applied EarthWorks, Inc. She received her Bachelor of Arts degree in Anthropology from the University of California, Santa Cruz and her Master of Science degree in Forensic Anthropology from the Boston University Chobanian and Avedisian School of Medicine. Ms. Saenz has completed internships in zooarchaeological preparation and curation, thermally altered scene analysis and remains recovery, and currently serves as a forensic anthropological consultant and peer reviewer for the Puerto Rico Institute of Forensic Sciences. In addition, Ms. Saenz serves as a forensic anthropology analyst at California State University Fresno, where she has performed laboratory case analysis and field exhumations. Ms. Saenz's professional responsibilities include project administration, osteological assessments, outreach with the Native American Heritage Commission and its recommendations, pre-field project preparations, writing technical reports, completing California Department of Parks and Recreation 523-series forms, and assisting with project proposals.

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CHEYENNE GOOD-PEERY

Staff Architectural Historian

Areas of Expertise

- Architectural history
- California history
- Environmental history
- Archival and historical research
- CEQA/NEPA application and analysis
- Secretary of the Interior's Standards for the Preservation of Historic Properties

Years of Experience

- 2

Education

B.A., Art History, East Tennessee State University, Johnson City, TN, 2019 (with great distinction)

B.A., Foreign Languages-French, East Tennessee State University, Johnson City, TN, 2019 (with great distinction)

Professional Affiliations

- California Preservation Foundation

Professional Experience

2021– Staff Architectural Historian, Applied EarthWorks, Inc., Fresno, California.

Technical Qualifications

Ms. Good-Peery is a Staff Architectural Historian at Applied EarthWorks, Inc. She received dual Bachelor of Arts degrees in Art History and French from East Tennessee State University in 2019. Ms. Good-Peery's professional responsibilities include policy consistency analysis, historical resource evaluation, significance evaluation, integrity assessment, built environment monitoring, archival and historical research, and architectural field surveys. She maintains all measures to satisfy compliance requirements under Section 106 of the NRHP, CEQA, and local regulations. Since joining Applied EarthWorks, Inc., Ms. Good-Peery has employed her educational background for projects throughout California's central valley, central coast, and southern California, including Fresno, Mariposa, Merced, Kern, Tulare, San Benito, San Luis Obispo, Santa Barbara, San Bernardino, Riverside and Los Angeles Counties. She has prepared evaluations for various types of state historic resources and at-risk properties and performed Section 110 condition assessments at military installations. She has assessed potential adverse effects under 36 CFR 800.5 in support of projects dealing with sensitive or eligible resources. She has also reviewed projects for consistency with the SOI Standards for the Treatment of Historic Properties. She is knowledgeable of urban, rural, residential, commercial, civic, agricultural, transportation, and scientific related properties.

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APPENDIX B

Records Search Results

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*Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the NHPA (PL 89-665, as amended, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).

APPENDIX C

Native American Outreach

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Native American Outreach

Merced Gateway Cultural Resource Study and Evaluation

Organization	Name	Letter	Email	Phone	Summary of Contact
Amah Mutsun Tribal Band	Valentin Lopez	07/30/24	07/30/24	Called 9/3/24; no answer and	No response to date
Amah Mutsun Tribal Band	Ed Ketchum	30-Jul-24	30-Jul-24	Called 9/3/24; no answer and no voicemail	No response to date
North Fork Rancheria of Mono Indians	Fred Beihn	30-Jul-24	30-Jul-24	—	Ashley Pomona responded 8/8/2024 deferring to Southern Sierra Miwok
North Fork Rancheria of Mono Indians	Mary Stalter	07/30/24	Returned unsendable	—	—
Northern Valley Yokut / Ohlone Tribe	Timothy Perez	07/30/24	07/30/24	Message left 9/3/24	No response to date
Northern Valley Yokut / Ohlone Tribe	Katherine Perez	07/30/24	07/30/24	Message left 9/3/24	No response to date
Southern Sierra Miwuk Nation	Sandra Chapman	07/30/24	07/30/24	—	—
Southern Sierra Miwuk Nation	Jazzmyn Gegere	07/30/24	07/30/24	Called 9/3/24	Stated that Southern Sierra Miwuk Nation has no tribal cultural resource concerns for this project and defers to any consulting tribes.
Tule River Indian Tribe	Kerri Vera	07/30/24	07/30/24	Message left 9/3/24	No response to date
Tule River Indian Tribe	Neil Peyron	07/30/24	07/30/24	Message left with recptionist 9/3/24	No response to date
Tule River Indian Tribe	Joey Garfield	—	—	—	—
Wuksachi Indian Tribe/Eshom Valley Band	Kenneth Woodrow	07/30/24	07/30/24	Called 9/3/24; no answer and no voicemail	No response to date

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Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
916-373-3710
916-657-5390 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Date: July 18, 2024

Project: 4634 Merced Gateway

County: Merced

USGS Quadrangle Name: Merced

Township: 07S **Range:** 14E **Section(s):** 34

Company/Firm/Agency: Applied EarthWorks, Inc.

Contact Person: Nicole Saenz

Street Address: 1391 W. Shaw Ave., Suite C

City: Fresno **Zip:** 93711

Phone: (559) 229-1856 x 121

Fax: (559) 229-2019

Email: nsaenz@appliedearthworks.com

Project Description:
Pedestrian survey in advance of a residential development.

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NATIVE AMERICAN HERITAGE COMMISSION

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Chumash

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Cahuilla

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Bennae Calac
Pauma-Yuima Band of Luiseño Indians

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710

July 23, 2024

Nicole Saenz
Applied EarthWorks, Inc.

***Via Email to*: nsaenz@appliedearthworks.com**

Re: 4634 Merced Gateway Project, Merced County

Dear Ms. Saenz:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

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Tribe Name	Contact Person	Contact Address	Phone #	Email Address
Amah Mutsun Tribal Band	Valentin Lopez, Chairperson	P.O. Box 5272 Galt, CA, 95632	(916) 743-5833	vjltestingcenter@aol.com
Amah Mutsun Tribal Band	Ed Ketchum, Vice-Chairperson		(530) 578-3864	aerieways@aol.com
North Fork Rancheria of Mono Indians	Fred Beihn, Chairperson	P.O. Box 929 North Fork, CA, 93643	(559) 877-2461	fbeihn@nfr-nsn.gov
North Fork Rancheria of Mono Indians	Mary Stalter, Environmental/Heritage Manager	P.O. Box 929 North Fork, CA, 93643	(559) 877-2461	mstalter@nfr-nsn.gov
Northern Valley Yokut / Ohlone Tribe	Timothy Perez, Tribal Compliance Officer	P.O. Box 717 Linden, CA, 95236	(209) 662-2788	huskanam@gmail.com
Northern Valley Yokut / Ohlone Tribe	Katherine Perez, Chairperson	P.O. Box 717 Linden, CA, 95236	(209) 649-8972	canutes@verizon.net
Southern Sierra Miwuk Nation	Sandra Chapman, Chairperson	P.O. Box 186 Mariposa, CA, 95338	(559) 580-7871	sandra47roy@gmail.com
Southern Sierra Miwuk Nation	Jazzmyn Gegere, Director of Cultural Resource Preservation	P.O. Box 186 Mariposa, CA, 95338	(209) 742-3104	preservation@southernsierramiwuknation.org
Tule River Indian Tribe	Kerri Vera, Environmental Department	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	kerri.vera@tulerivertribe-nsn.gov
Tule River Indian Tribe	Neil Peyron, Chairperson	P.O. Box 589 Porterville, CA, 93258	(559) 781-4271	neil.peyron@tulerivertribe-nsn.gov
Tule River Indian Tribe	Joey Garfield, Tribal Archaeologist	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	joey.garfield@tulerivertribe-nsn.gov
Wuksachi Indian Tribe/Eshom Valley Band	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702	kwood8934@aol.com

DRAFT

Applied EARTHWORKS Inc.

1391 W. Shaw Ave., Suite C
Fresno, CA 93711-3600
O: (559) 229-1856 | F: (559) 229-2019
www.appliedearthworks.com

July 29, 2024

Jazzmyn Gegere, Director of Cultural Resource Preservation
Southern Sierra Miwuk Nation
P.O. Box 186
Mariposa, CA, 95338
(209) 742-3104
Transmitted via USPS and email (preservation@southernsierramiwuknation.org)

RE: Merced Gateway Survey Project, Merced County, California

Dear Jazzmyn Gegere,

Applied EarthWorks, Inc. (Æ) is providing cultural resource services, including archaeological survey, in support of proposed residential development with associated street improvements and utility tie-ins (Project). The Project boundaries are in the City of Merced, Merced County, California.

The project area is a 62.18-acre parcel as shown on the Merced (1987), CA 7.5-minute U.S. Geological Survey topographic quadrangle (see enclosed map). The project does involve new construction, including multiple ground-breaking activities related to construction and development. Therefore, a cultural resource study is required.

On behalf of the City of Merced, Æ is conducting Native American outreach and performing other tasks related to cultural resource management. The project is subject to the requirements of the California Environmental Quality Act and, as lead agency, the City of Merced is responsible for any formal government-to-government consultation required. This communication is not intended to initiate Assembly Bill 52 consultation.

Æ has requested a sacred lands file search from the Native American Heritage Commission. The results were received on July 23, 2024 and indicated a negative result. Your name and address were provided to us by the NAHC as someone who may have additional information and/or concerns about the project.

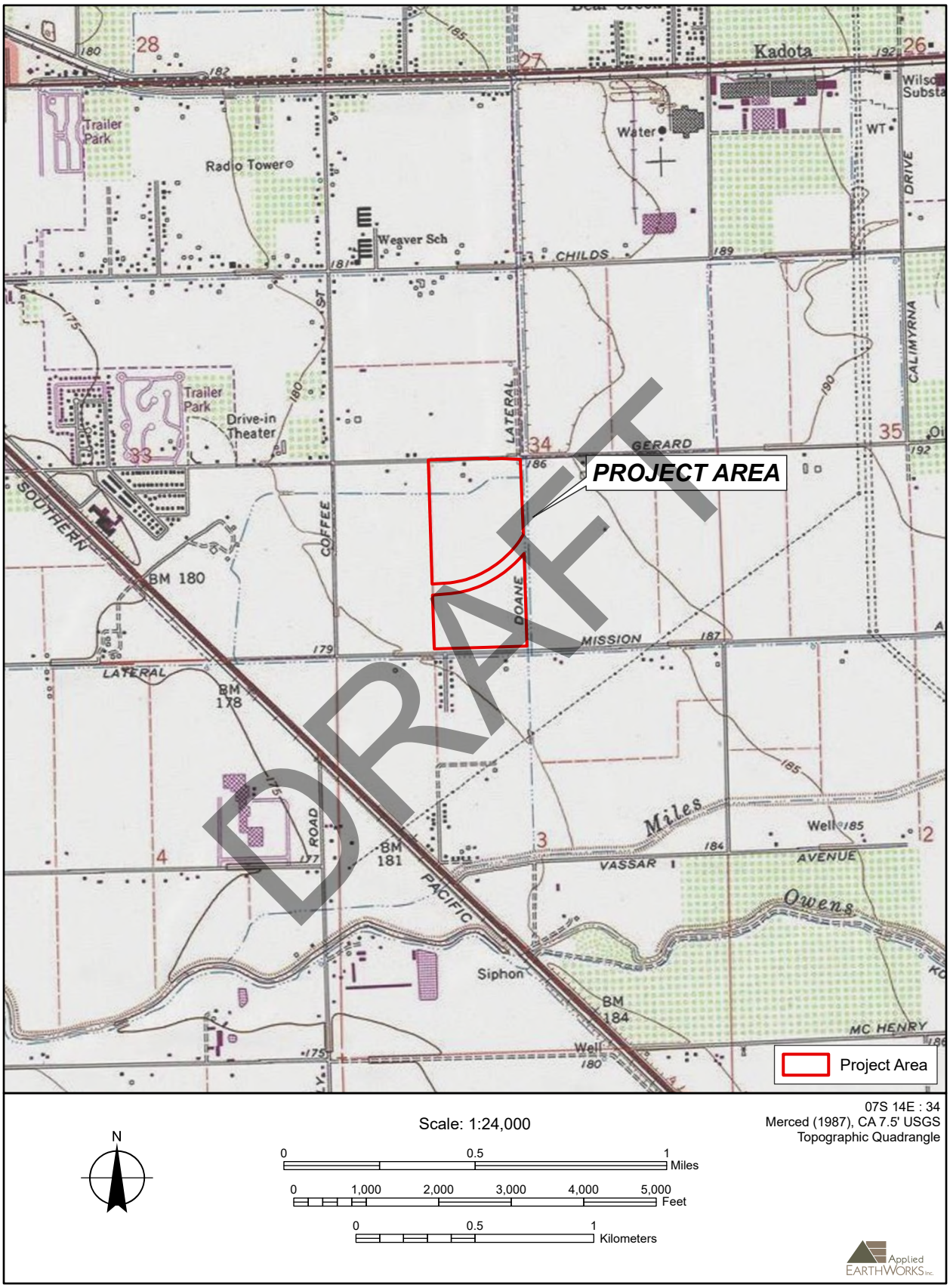
If you have information about tribal or cultural resources in the area or if you have any interest in the project, please email/phone me or send a letter to my attention. Your comments will be included in our cultural resource report unless noted otherwise. You can contact me during normal business hours (559-229-1856 ext. 121) or via email at nsaenz@appliedearthworks.com if you have any questions or need additional information.

Sincerely,

Nicole Saenz, M.S.
Staff Anthropologist, Fresno Office
Applied EarthWorks, Inc.

encl.: Project Map

DRAFT



Project location map for the *Project - Merced Gateway AE4634.*

Nicole Saenz <nsaenz@appliedearthworks.com>

Merced Gateway Survey Project

1 message

Ashley Pomona <apomona@northforkrancheria-nsn.gov> Thu, Aug 8, 2024 at 4:31 PM
To: "nsaenz@appliedearthworks.com" <nsaenz@appliedearthworks.com>
Cc: Lance Fink <lfink@northforkrancheria-nsn.gov>

Good Afternoon,

I hope this message finds you well. Thank you for contacting North Fork Rancheria. We will defer to Southern Sierra Miwoks. I would also like to take this opportunity to introduce you to Lance Fink, who has recently assumed the role of Environmental Protection department manager. Lance has been included in this email for your convenience. Should you have any questions or require further information, please do not hesitate to reach out to either Lance or myself. We are more than happy to assist.

Thank you for your time.

Ashley Pomona

EPD Administrative Assistant

Phone: 559-877-5411

Web: www.northforkrancheria-nsn.gov

Email: apomona@nfr-nsn.gov

57906 Old Millsite Ct,

North Fork, CA 93643

DRAFT

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Nicole Saenz <nsaenz@appliedearthworks.com>

Merced Gateway Archaeology Project

3 messages

Nicole Saenz <nsaenz@appliedearthworks.com> Tue, Jul 30, 2024 at 8:52 AM
To: preservation@southernsierramiwuknation.org
Cc: Anna Hoover <ahoover@appliedearthworks.com>

Dear Jazzmyn Gegere,

Applied EarthWorks, Inc. is providing archaeological services for a project in Merced, Merced County, CA. As a result of a recent Native American Heritage Commission (NAHC) Sacred Lands Search for this project, your name and contact information was provided by the NAHC as someone who may have additional information and/or concerns about this project.

Please kindly review the attached letter and project area map and respond with any comments or concerns you may have. Please note that our outreach is not formal government to government consultation, but an opportunity for you to provide information for the archaeological report.

We appreciate your time and consideration.

--

Nicole Saenz M.S. | **Applied EarthWorks, Inc.**
Staff Anthropologist - Osteologist - Project Administrator | (She/Her)

1391 W. Shaw Ave., Suite C
Fresno, CA 93711-3600
Office 559-229-1856 x121
www.appliedearthworks.com

Archaeology | Paleontology | Historical Architecture | GIS

Southern Sierra Miwuk Director Cultural Resource Preservation.pdf
1098K

DRAFT

Nicole Saenz <nsaenz@appliedearthworks.com> Wed, Sep 4, 2024 at 1:54 PM
To: preservation@southernsierramiwuknation.org

Hello Jazzmyn,
I am writing to follow up on our conversation yesterday about this project to see if you have any feedback or information that you would like included in our report?

Thank you
Nicole
[Quoted text hidden]
--
Nicole

Jazzmyn Gegere Brochini <preservation@southernsierramiwuknation.org> Wed, Sep 4, 2024 at 2:44 PM
To: Nicole Saenz <nsaenz@appliedearthworks.com>

Hello Nicole,

The Southern Sierra Miwuk Nation has no tribal cultural resource concerns for this project. But, will defer to any consulting Tribes, if any.

Thank you,

Jazzmyn

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Nicole Saenz <nsaenz@appliedearthworks.com>
Sent: Wednesday, September 4, 2024 1:54:17 PM
To: Jazzmyn Gegere Brochini <preservation@southernsierramiwuknation.org>
Subject: Re: Merced Gateway Archaeology Project

[Quoted text hidden]

DRAFT

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APPENDIX D

Cultural Resource Records

DRAFT

*Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the NHPA (PL 89-665, as amended, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).

APPENDIX D
PHASE I ENVIRONMENTAL SITE ASSESSMENT

May 31, 2024 Project No. 034-24036

Mr. Rabie Mekideche
Lennar Homes of California, LLC
8080 North Palm Avenue, Suite 110
Fresno, California 93711
Rabie.mekideche@lennar.com

RE: Phase I Environmental Site Assessment
Campus Gateway Development
Campus Parkway
APN 061-710-009 and A Portion of APN 061-710-023
Merced, California 95341

Dear Mr. Mekideche:

Krazan & Associates, Inc., (Krazan) completed a Phase I Environmental Site Assessment at the referenced site summarized in a report dated May 31, 2024. Please note that the earliest date of source review was on May 9, 2024. This report is considered viable within 180 days of that date. We appreciate the opportunity to serve your environmental due diligence needs.

During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in connection with the subject site as defined by ASTM E 1527-21. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that the northern portion of the subject site was occupied by a rural residential area from at least 1937 until at least 1998. The rural residential area included a varying number of dwellings, barns, and other outbuildings over the course of the 1937- to 1998-time interval, with at least three barn-type structures present in 1950 and five or six barn-type structures present in 1984. Additionally, historical aerial photographs of the subject site vicinity indicate the presence of on-site farming operations during the 1937- to 1998-time interval expected to have utilized fuel-powered trucks and farm equipment. Mr. Timothy Jones, a representative of the owner of the subject site familiar with the subject site for the past 17 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site, and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location.

Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the subject site prior to the current owner of the subject site is unknown.

If higher level of due diligence is required, an assessment of the inferred area of the former structures previously located within the subject site can be conducted to assess the presence or absence of subsurface metallic anomalies characteristic of USTs. If a UST is identified, it should be removed in accordance with State and local guidelines.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least 1998. While there is a potential that environmentally persistent pesticides/herbicides may have been applied to the crops grown on the subject site prior to the 1970s, no chemical spray rig filling/mixing areas or chemical storage areas were observed during the site reconnaissance, no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and the subject site does not appear to have been occupied by a vineyard or an orchard which are typically more directly correlated with the historical use of environmentally persistent pesticides/herbicides. Therefore, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to currently exist in the near-surface soils of the subject site appears to be low, although the actual condition of surficial soils is unknown.

  It has been Krazan's experience that chemical analysis of shallow soil samples for persistent pesticides/herbicides in current or former agricultural areas does not typically result in concentrations reported above regulatory screening levels; however, it has also been Krazan's recent experience that Federal, State and Local agencies and/or financial lending institutions have at times required "pesticide screening" of properties with current and/or former agricultural uses. If pesticide screening or further assessment is required by a government agency or financial lending institution, Krazan can assist with those requests.

Site Development Issues

- As indicated previously, review of historical aerial photographs indicates that the northern portion of the subject site was occupied by dwellings and outbuildings circa 1937. The dwellings were located on site from at least 1937 until at least 1998. It is presumed that all water wells and septic systems associated with the historical on-site structures were properly destroyed or removed from the subject site at the time that these structures were demolished in the early- to late-2000s. However, it is unknown if all water wells or septic systems were destroyed/removed from the subject site. If any water wells or septic systems are identified during the planned redevelopment of the subject site, they should be properly destroyed or removed in accordance with State and local guidelines.

- According to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website on May 24, 2024, a designated Riverine wetland is located within the northern portion of the subject site. The USFWS-reported on-site wetland is associated with the on-site portion of an irrigation canal present since at least 1937. While a definitive assessment of the presence of on-site wetland habitats is beyond the scope of this Phase I ESA, it is Krazan's experience that unlined, irrigation ditches are common within agricultural areas and these areas can seasonally be consistent with wetland environments. Prior to development of the subject site, an assessment can be conducted by a qualified biologist to establish if wetland habitats exist and to determine the impact of development should wetlands be identified on the subject site. Refer to Appendix C – *USFWS Map* for details.

If you have any questions regarding the information presented in this report, please call me at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Remington R. Alexander, PE
Environmental Regional Manager

RRA/mlt

PHASE I ENVIRONMENTAL SITE ASSESSMENT

CAMPUS GATEWAY DEVELOPMENT
CAMPUS PARKWAY
APN 061-710-009 AND A PORTION OF
APN 061-710-023
MERCED, CALIFORNIA 95341

Project No. 034-24036
May 31, 2024

Prepared for:
Mr. Rabie Mekideche
Lennar Homes of California, LLC
8080 North Palm Avenue, Suite 110
Fresno, California 93711

Prepared by:
Krazan & Associates, Inc.
215 West Dakota Avenue
Clovis, California 93612
(559) 348-2200

Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **i**

1.0 INTRODUCTION **1**

2.0 PURPOSE AND SCOPE OF ASSESSMENT **3**

2.1 Purpose 3
2.2 Scope of Work 3

3.0 SUBJECT SITE SETTING **4**

3.1 Geology and Hydrogeology 4

4.0 SITE BACKGROUND **6**

4.1 Sanborn Fire Insurance Maps 6
4.2 USGS Topographic Quadrangle Maps 6
4.3 City Cross Reference Directories 8
4.4 Aerial Photograph Interpretation 8
4.5 Municipal Records 11
4.6 Previous Environmental Assessments 11
4.7 Agricultural Chemicals 12

5.0 USER-PROVIDED INFORMATION **13**

5.1 Environmental Liens/Activity and Use Limitations Report 13
5.2 Title Report 13
5.3 Interviews 13
5.4 Phase I Environmental Site Assessment User Questionnaire 14

6.0 SITE RECONNAISSANCE **16**

6.1 Observations 16
6.2 Adjacent Streets and Property Usage 18
6.3 ASTM Non-Scope Considerations 18
6.4 Regulatory Agency Records Review 20

7.0 DISCUSSION OF FINDINGS **26**

7.1 Evaluation of Data Gaps/Data Failure 26

8.0 CONCLUSIONS **28**

9.0 RELIANCE **30**

10.0 LIMITATIONS **30**

11.0 QUALIFICATIONS **31**

REFERENCES **33**

GLOSSARY OF TERMS **34**

TABLE OF CONTENTS (continued)

FIGURES

Figure No. 1 Vicinity Map
Figure No. 2 Parcel Map
Figure No. 3 Site Map
Figure No. 4 Topographic Map

PHOTOGRAPHS

APPENDICES

Appendix A EDR – Certified Sanborn® Map Report
EDR – Historical Topo Map Report
EDR – City Directory Image Report
EDR – Aerial Photo Decade Package

Appendix B Preliminary Title Report
Phase I ESA Questionnaires

Appendix C EDR – Radius Map Report
USFWS - National Westlands Inventory May

EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the 72.25-acre property which is associated with Merced County Assessor's Parcel Number (APN) 061-710-009 and a portion of 061-710-023 (subject site). The subject site is a former rural residential and agricultural property located south of East Gerard Avenue and 0.25 miles east of South Coffee Street in Merced, Merced County, California 95341. The subject site does not currently appear to be associated with an address. At the time of Krazan's May 24, 2024 site reconnaissance, the subject site was vacant.

The entire subject site was vacant land from at least 1914 until at least 1917, and the central and southern portions of the subject site have not been developed with any structures since at least 1914. The northern portion of the subject site was occupied by a rural residential area, including a varying number of dwellings, barns, and other outbuildings from at least 1937 until at least 1998. During the 1937- to 1998-time interval, an irrigation canal was present in the northern portion of the subject site and the remainder of the subject site was utilized for agricultural purposes, primarily the cultivation of grain crops. The subject site appears to have been only intermittently cultivated since 1998. The subject site appears to have been vacant land since at least 2006 except for remnants of two outbuildings present in 2006.

Lennar Homes of California, LLC plans to purchase the property in order to develop new single-family homes. The site is located in a mixed commercial, residential, and agricultural area of Merced.

The subject site location was not identified on any Federal, State or local regulatory database indicating that a release of hazardous materials has impacted the subject site.

Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in connection with the subject site as defined by ASTM E 1527-21. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that the northern portion of the subject site was occupied by a rural residential area from at least 1937 until at least 1998. The rural residential area included a varying number of dwellings, barns, and other outbuildings over the course of the 1937- to 1998-time interval, with at least three barn-type structures present in 1950 and five or six barn-type structures present in 1984. Additionally, historical aerial photographs of the subject site vicinity indicate the presence of on-site farming operations during the 1937- to 1998-time interval expected to have utilized fuel-powered trucks and farm equipment. Mr. Timothy Jones, a representative of the owner of the subject site familiar with the subject site for the past 17 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site, and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the subject site prior to the current owner of the subject site is unknown.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least 1998. While there is a potential that environmentally persistent pesticides/herbicides may have been applied to the crops grown on the subject site prior to the 1970s, no chemical spray rig filling/mixing areas or chemical storage areas were observed during

the site reconnaissance, no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and the subject site does not appear to have been occupied by a vineyard or an orchard which are typically more directly correlated with the historical use of environmentally persistent pesticides/herbicides. Therefore, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to currently exist in the near-surface soils of the subject site appears to be low, although the actual condition of surficial soils is unknown.

Site Development Issues

- As indicated previously, review of historical aerial photographs indicates that the northern portion of the subject site was occupied by dwellings and outbuildings circa 1937. The dwellings were located on site from at least 1937 until at least 1998. It is presumed that all water wells and septic systems associated with the historical on-site structures were properly destroyed or removed from the subject site at the time that these structures were demolished in the early- to late-2000s. However, it is unknown if all water wells or septic systems were destroyed/removed from the subject site. If any water wells or septic systems are identified during the planned redevelopment of the subject site, they should be properly destroyed or removed in accordance with State and local guidelines.

- According to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website on May 24, 2024, a designated Riverine wetland is located within the northern portion of the subject site. The USFWS-reported on-site wetland is associated with the on-site portion of an irrigation canal present since at least 1937. While a definitive assessment of the presence of on-site wetland habitats is beyond the scope of this Phase I ESA, it is Krazan's experience that unlined, irrigation ditches are common within agricultural areas and these areas can seasonally be consistent with wetland environments. Prior to development of the subject site, an assessment can be conducted by a qualified biologist to establish if wetland habitats exist and to determine the impact of development should wetlands be identified on the subject site. Refer to Appendix C –*USFWS Map* for details.

1.0 INTRODUCTION

The subject site is located south of East Gerard Avenue and 0.25 miles east of South Coffee Street in Merced, Merced County, California 95341. The subject site is 72.25 acres in area and is associated with Merced County Assessor's Parcel Number (APN) 061-710-009 and a portion of 061-710-023. The subject site does not currently appear to be associated with an address. At the time of Krazan's May 24, 2024 site reconnaissance, the subject site was vacant land.

The entire subject site was vacant land from at least 1914 until at least 1917, and the central and southern portions of the subject site have not been developed with any structures since at least 1914. The northern portion of the subject site was occupied by a rural residential area, including a varying number of dwellings, barns, and other outbuildings from at least 1937 until at least 1998. During the 1937- to 1998-time interval, an irrigation canal was present in the northern portion of the subject site and the remainder of the subject site was utilized for agricultural purposes, primarily the cultivation of grain crops. The subject site appears to have been only intermittently cultivated since 1998. The subject site appears to have been vacant land since at least 2006 except for remnants of two outbuildings present in 2006.

Krazan conducted the Phase I ESA of the subject site in conformance with the American Society for Testing and Materials (ASTM) E 1527-21 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* This Phase I ESA constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the subject site as defined by ASTM E 1527-21.

ASTM E 1527-21 Section 1.1.1 *Recognized Environmental Conditions* – In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means: 1) the presence of hazardous substances or petroleum due to a release to the environment; 2) the likely presence of hazardous substances or petroleum products due to a likely release to the environment; or 3) the presence of hazardous substances or petroleum products under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

It is incumbent upon the user to read this Phase I ESA report in its entirety. If not otherwise defined within the text of this report, please refer to the Glossary of Terms Section following the References Section for definitions of terms and acronyms utilized within this Phase I ESA report.

Previous Environmental Assessments

No previous environmental assessments of the subject site were provided to Krazan by Lennar of Homes of California, LLC for review as part of this Phase I ESA.

2.0 PURPOSE AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-21, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment* of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products.* As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner,* or *bona fide prospective purchaser* limitation on CERCLA liability (hereinafter, the *landowner liability protections,* or *LLPs*): that is, the practice that constitutes *all appropriate inquiries* into the previous ownership and uses of the *property* consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B).

2.2 Scope of Work

The scope of work for this Phase I ESA conforms to ASTM E 1527-21. The Phase I ESA includes the following scope of work: a) a site reconnaissance of existing on-site conditions and observations of adjacent property uses, b) a review of user-provided documents, c) a review of historical aerial photographs, a review of pertinent building permit records, cross-reference directories, historical Sanborn Fire Insurance Maps (SFIMs), and interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, d) a review of local regulatory agency records, and e) a review of local, state, and federal regulatory agency lists compiled by Environmental Data Resources, Inc. (EDR).

Krazan was provided with written authorization to conduct the Phase I ESA by Mr. Walter Diamond with Lennar of California/Lennar Central Valley California on May 9, 2024 via Lennar Work Order # 20762 dated May 9, 2024 and Krazan's May 7, 2024 Proposal/Cost Estimate No. P24-207.

3.0 SUBJECT SITE SETTING

The subject site is located south of East Gerard Avenue and 0.25 miles east of South Coffee Street in Merced, Merced County, California 95341. The subject site is an irregular-shaped parcel measuring 72.25 acres in area which does not currently appear to be associated with an address. The site is located within a mixed commercial, residential, and agricultural area of Merced. General property information and property use are summarized in the following table. Refer to Figures No. 1 – 4 for subject site details.

Subject Site Information Summary	
Current Owner:	Merced Gateway, LLC
Assessor's Parcel Numbers:	061-710-009 and a portion of 061-710-023 Previously: 061-250 050 and a portion of 061-250-094
Addresses:	No Address – City of Merced Jurisdiction Merced, California 95341
Historical Addresses:	None Identified
General Location:	South of East Gerard Avenue and 0.25 miles east of South Coffee Street
Acreage:	72.25 acres
Zoning:	BP – Business Park (City of Merced GIS Map – May 2024)
Existing Use:	Vacant/Fallow Land
Number of Buildings:	None
Original Construction Date:	N/A
Proposed Use:	Residential – Single-Family Homes
Electricity:	Pacific Gas & Electric/Merced Irrigation District
Natural Gas:	Pacific Gas & Electric
Potable Water:	City of Merced
Sanitary Sewer:	City of Merced
Latitude / Longitude:	37.2769000° / –120.4266840°
Topographic Map:	U.S. Geological Survey, 7.5-minute Merced, California
Topographic Map Location:	Southwestern quarter of Section 34, Township 07 South, Range 14 East, Mount Diablo Baseline and Meridian
Topography:	Approximately 185 feet above mean sea level
Approximate Depth to Groundwater:	165 feet below ground surface (bgs), State of California Department of Water Resources (DWR)*
Regional Groundwater Flow Direction:	Southeast, DWR*

Note: * State of California, Department of Water Resources, *Sustainable Groundwater Management Act (SGMA) Data Viewer, Spring 2023*

3.1 Geology and Hydrogeology

The subject site is located within the San Joaquin Valley, a broad structural trough bound by the Sierra Nevada and Coast Ranges of California. The San Joaquin Valley, which comprises the southern portion of the Great Valley of California, has been filled with several thousand feet of sedimentary deposits. Sediments in the eastern valley, derived from the erosion of the Sierra Nevada, have been deposited by

major to minor west-flowing drainages and their tributaries. Near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. The sedimentary deposits in the region form large coalescing alluvial fans with gentle slopes. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service, soils at the subject site are described as Landlow series, a somewhat poorly drained silty clay loam with slow infiltration rates. Groundwater in the subject site vicinity was reported to be first encountered at a depth of approximately 165 feet bgs in Spring 2023. The groundwater flow direction in the area of the subject site was generally toward the southeast.

4.0 SITE BACKGROUND

A review of historical Sanborn Fire Insurance Maps (SFIMs), historic USGS topographic maps, reasonably ascertainable city cross-reference directories, historical aerial photographs, local agency records and previous environmental reports, as made available to Krazan, were utilized to assess the history of the subject site.

4.1 Sanborn Fire Insurance Maps

Krazan reviews Sanborn Fire Insurance Maps (SFIMs) to evaluate prior land use of the subject site and the adjacent properties. SFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the subject site within the city limits. Krazan contracted with Environmental Data Resources, Inc. (EDR) to provide copies of available SFIMs for the subject site and the adjacent properties. EDR's search of SFIMs revealed no coverage for the subject site and the adjacent properties. Refer to Appendix A – *EDR – Certified Sanborn® Map Report* dated May 9, 2024 for details.

4.2 USGS Topographic Quadrangle Map

Krazan reviewed the 7.5-minute Merced, California topographic quadrangle map dated 1914, 1917, 1946, 1948, 1961, 1976, 1987, 2012, 2015, 2018, and 2021 and the 15-minute Merced, California topographic quadrangle map dated 1962. According to review of the historical topographic quadrangle maps, the entire subject site was vacant land from at least 1914 until at least 1917, and the central and southern portions of the subject site were vacant land from at least 1914 until at least 1987. The northern portion of the subject site was occupied by a rural residential area, including a residential-type structure and one or more barn-type outbuildings from at least 1946 until at least 1987. An east-west trending irrigation canal was present in the northern portion of the subject site from at least 1961 until at least 2021. The non-residential part of the northern portion of the subject site was depicted as vacant land from at least 1914 until at least 1987. Subject site and adjacent/vicinity property usage is summarized in the following table. Refer to Figure No. 4 and Appendix A – *EDR - Historical Topo Map Report* dated May 9, 2024 for details.

Topographic Maps Summary		
Year	***Site Usage***	***Adjacent Property Usage***
1914	Vacant land. The subject site is depicted as vacant land with relatively flat terrain. No structures are depicted on the subject site.	Rural residential and vacant land. The northern, southern, and eastern adjacent properties are depicted as vacant land with relatively flat terrain. Paved roads are present adjacent to the north and south of the subject site. The western adjacent property is occupied by a residential-type structure and vacant land.
1917	Vacant land. The subject site is relatively unchanged from the 1914 map.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1914 map.
1946	Rural residential. The northern portion of the subject site is occupied by a residential-type structure. The remainder of the subject site is depicted as vacant land with relatively flat terrain.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1917 map except rural residences have been developed on the southern and eastern adjacent properties.
1948	Rural residential. The subject site is relatively unchanged from the 1946 map.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1946 map.
1961	Rural residential and irrigation canal. The subject site is relatively unchanged from the 1948 map except: 1) a barn-type structure has been developed in the northern portion of the subject site, and 2) an east-west trending irrigation canal has been developed in the northern portion of the subject site.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1948 map except: 1) several residences have been developed on the southern adjacent property, 2) two residences have been developed adjacent to the northwest of the subject site, 3) barns have been developed on the eastern adjacent property, and 4) an irrigation canal has been developed adjacent to the east of the subject site.
1962	Rural residential and irrigation canal. The subject site is relatively unchanged from the 1961 map except for a water well which is depicted on the northern boundary of the subject site near the northeastern corner of the subject site. However, review of historical aerial photographs indicates that this water well is located on the northern adjacent property.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1961 map.
1976	Rural residential and irrigation canal. The subject site is relatively unchanged from the 1962 map except a third structure is depicted within the rural residential area in the northern portion of the subject site.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1962 map.

Topographic Maps Summary (continued)		
Year	***Site Usage***	***Adjacent Property Usage***
1987	Rural residential and irrigation canal. The subject site is relatively unchanged from the 1976 map.	Rural residential and vacant land. The adjacent properties are relatively unchanged from the 1976 map.
2012, 2015, 2018, 2021	The subject site is depicted within a mixed developed and undeveloped area southeast of the City of Merced. Map details include streets, highways and freeways, waterways, and surface elevation contours. Subject site features such as structures are not denoted. The irrigation canal is depicted in the northern portion of the subject site in the 2012, 2015, 2018, and 2021 maps.	The adjacent and surrounding property usage is depicted within a mixed developed and undeveloped area southeast of the City of Merced. Map details include streets, highways and freeways, waterways, and surface elevation contours. Property features such as structures are not denoted.

4.3 City Cross-Reference Directories

Krazan contracted with EDR to provide a review of available cross-reference directories dated between 1952 and 2020 for the subject site address and adjoining properties. The prescribed research conducted during the course of this Phase I ESA did not identify any current or historical addresses associated with the subject site. Consequently, it was not possible to ascertain potential previous occupants of the subject site, if any, through review of available cross-reference directories. The cross-reference directory research conducted by EDR utilizing Campus Parkway as the target property street did not reveal any Campus Parkway listings, and EDR reported "No cross streets identified" for their research. Consequently, no cross-reference directory listings were obtained from EDR for the adjoining properties. Refer to Appendix A – *EDR - City Directory Image Report* dated May 13, 2024 for details.

Review of cross-reference directory information provided by EDR did not identify evidence of current or historic RECs based on subject site or the adjacent property uses.

4.4 Aerial Photograph Interpretation

Historical aerial photographs were obtained from EDR and reviewed to assess the history of the subject site. According to review of the historical aerial photographs, the northern portion of the subject site was occupied by a rural residential area, including a varying number of dwellings, barns, and other outbuildings from at least 1937 until at least 1998. During the 1937- to 1998-time interval, an irrigation canal was present in the northern portion of the subject site and the remainder of the subject site was utilized for agricultural purposes, primarily the apparent cultivation of grain crops. Except for remnants of two outbuildings present in 2006, the subject site appears to have been vacant land from at least 2006 until at

least 2020. The aerial photograph summary is provided in the following table. Refer to Appendix A – *Aerial Photo Decade Package* dated May 10, 2024 for details.

Aerial Photograph Review Summary		
Year	***Site Use***	***Adjacent Properties***
1937	Rural residential, agricultural, and vacant land. The northwestern portion of the subject site appears to be occupied by a rural residence, including a dwelling, a barn-type structure, and a second outbuilding. The northern portion of the subject site not occupied by the rural residence appears to be cultivated with grain crops. The southern portion of the subject site appears to be vacant land. An east-west trending irrigation canal is visible in the northern portion of the subject site.	Rural residential, agricultural, and vacant land/pasture. An unpaved road is present adjacent to the north of the subject site, beyond which appears to be irrigated vacant land being utilized as pasture. The eastern, southern, southeastern, and southwestern adjacent properties appear to be occupied by rural residences and/or to be utilized for agricultural purposes. The western adjacent property appears to be vacant land which is occupied by a small structure that may be a dwelling but is more likely an unoccupied outbuilding. A north-south trending irrigation canal is present adjacent to the east of the subject site.
1942	Rural residential, agricultural, and vacant land/pasture. The subject site is relatively unchanged from the 1937 photograph except: 1) an additional small outbuilding is present north of the dwelling, and 2) the southern portion of the subject site appears to be irrigated pasture.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1937 photograph except: 1) a driveway is visible leading to the structure on the western adjacent property suggesting that its use is residential, 2) the western and northern adjacent properties appear to be cultivated, and 3) the eastern adjacent property appears to be fallow.
1946	Rural residential and agricultural. The subject site is relatively unchanged from the 1942 photograph except: 1) an additional small outbuilding is present north of the dwelling, and 2) all of the non-residential portion of the subject site appears to be cultivated.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1942 photograph except a rural residence has been developed on the southern adjacent property.
1950	Rural residential and agricultural. The subject site is relatively unchanged from the 1946 photograph except a second barn-type structure appears to have been developed southwest of the residential area.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1946 photograph.

Aerial Photograph Review Summary (continued)		
Year	***Site Use***	***Adjacent Properties***
1973	Rural residential and agricultural. The subject site is relatively unchanged from the 1950 photograph. However, the quality and resolution of the 1973 photograph are poor.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1950 photograph except additional structures are visible on the southern adjacent property. However, the quality and resolution of the 1973 photograph are poor.
1976	Rural residential and agricultural. The subject site is relatively unchanged from the 1973 photograph except for the development of at least one structure in the central-northern portion of the subject site. However, the quality and resolution of the 1976 photograph are poor.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1973 photograph. However, the quality and resolution of the 1976 photograph are poor.
1984	Rural residential and agricultural. The subject site is relatively unchanged from the 1976 photograph except for the development of additional on-site structures, including small outbuildings and two elongated structures consistent with poultry barns in the northeastern portion of the property.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1976 photograph.
1998	Rural residential and agricultural. The subject site is relatively unchanged from the 1984 photograph except several of the on-site structures have been removed, with only the dwelling and the two associated outbuildings located in the central-northern portion of the property remaining. The agricultural portion of the subject site appears to be fallow.	Rural residential and agricultural. The adjacent properties appear relatively unchanged from the 1984 photograph.
2006	Outbuildings and fallow/vacant land. The subject site is relatively unchanged from the 1998 photograph except: 1) the dwelling has been removed from the northern portion of the subject site, 2) the remainder of the northern portion of the subject site appears to be vacant land, and 3) the central and southern portions of the subject site appear to be vacant/fallow land.	Residential and agricultural. The adjacent properties appear relatively unchanged from the 1998 photograph except a residential subdivision has been developed on the northern adjacent property.

Aerial Photograph Review Summary (continued)		
Year	***Site Use***	***Adjacent Properties***
2009	Vacant land. The subject site appears to be vacant land. All structures have been removed from the subject site. The irrigation canal located in the northern portion of the subject site appears to be dry and no longer functional.	Residential, agricultural, and vacant land. The adjacent properties appear relatively unchanged from the 2006 photograph except: 1) the surface street which bisects the subject site, Campus Parkway, is being developed, 2) the eastern adjacent property appears to be fallow, and 3) the western adjacent property appears to be vacant land.
2012	Vacant land. The subject site is relatively unchanged from the 2009 photograph.	Residential, agricultural, and vacant land. The adjacent properties appear relatively unchanged from the 2009 except development of Campus Parkway has been completed.
2016, 2020	Vacant land. The subject site is relatively unchanged from the 2012 photograph.	Residential, agricultural, and vacant land. The adjacent properties appear relatively unchanged from the 2012.

4.5 Municipal Records

City of Merced Development Services Department Records

On May 9, 2024, a building permit records request was submitted to the City of Merced Development Services Department for the subject site APNs of 061-710-009 and 061-710-023. According to a representative of the City of Merced, as of May 10, 2024, no building permits were on file with the City of Merced Development Services Department for the referenced subject site APNs. Therefore, no permits for hazardous materials underground storage tanks, previous structures/features, or other items of potential environmental concern were on file with the City of Merced Development Services Department for the subject site APNs.

City of Merced Fire Department

The City of Merced Fire Department has jurisdiction for fire protection for the subject site and the immediate vicinity. On May 9, 2024, the City of Merced Fire Department was contacted regarding potential records of hazardous materials spill/release incidents for the subject site APNs or the subject site location. According to a representative of the City of Merced, as of May 10, 2024, no record of a hazardous materials spill or release incident was on file with the City of Merced Fire Department for the subject site APNs or the subject site location.

4.6 Previous Environmental Assessments

No previous environmental assessments of the subject site were provided to Krazan by Lennar of California, LLC for review as part of this Phase I ESA.

4.7 Agricultural Chemicals

Review of historical aerial photographs indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least 1998. Although the potential exists that environmentally persistent pesticides/herbicides may have historically been applied to crops grown on the subject site circa 1940s to mid-1970s; 1) no chemical spray rig filling/mixing areas or chemical storage areas were observed during the site reconnaissance; 2) no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment; 3) the subject site does not appear to have been occupied by a vineyard or an orchard which are typically more directly correlated with adverse impacts from the historical use of environmentally persistent pesticides/herbicides, and 4) it is anticipated that any environmentally persistent pesticides/herbicides potentially located on site will be dislocated and diluted as a result of the grading and trenching operations which will be conducted in connection with the proposed redevelopment of the property. Consequently, given the above-referenced factors and Krazan's experience in the subject site vicinity, the potential for elevated concentrations of environmentally persistent pesticides/herbicides related to crop cultivation to exist in the near-surface soils of common agricultural ground at concentrations which would require regulatory action appears to be low, although the actual condition of the surficial soils is unknown.

5.0 USER-PROVIDED INFORMATION

A review of user-provided information was conducted in order to help identify pertinent information regarding potential environmental impacts associated with the subject site.

5.1 Environmental Liens/Activity and Use Limitations Report

An Environmental Lien/Activity and Use Limitations (EL/AUL) Report for the subject site APN was not provided to Krazan by Lennar Homes of California, LLC, Phase I ESA user.

5.2 Title Report

A Preliminary Title Report (PTR) dated April 11, 2024, prepared for the subject site by WFG National Title Insurance Company, was provided to Krazan by Lennar Homes of California, LLC, Krazan's client and the Phase I ESA user. The subject site PTR was reviewed to identify potential environmental deed restrictions, environmental liens, or environmental activity and use limitations (AULs) which may have occurred on or exist in connection with the subject site. Krazan's review of the PTR indicated no environmental deed restrictions, environmental liens or environmental AULs for the subject site. However, as quoted from the subject site PTR, "It is important to note that this Preliminary Title Report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land." The absence of a condition of title represents a data gap. Please refer to Appendix B – *Preliminary Title Report* for details.

5.3 Interviews

Krazan conducts interviews with the owner of the subject site, a key site manager, subject site occupant(s), and/or the previous owner/occupant(s) of the subject site. The interview(s) is/are designed to provide pertinent information regarding potential environmental impacts associated with the subject site.

Subject Site Owner - An interview was conducted with Mr. Timothy Jones, representative of Merced Gateway, LLC, the owner of the subject site, via his completion of an environmental questionnaire on May 14, 2024. According to questionnaire responses, Mr. Jones indicated that he has been familiar with the subject site for 17 years. Mr. Jones indicated that the subject site is currently vacant land and there are no structures located on site. Mr. Jones indicated that an abandoned canal is present in the northern portion of the property, and he indicated that it is unknown if a pipeline associated with that canal is still in place. Mr. Jones indicated that he has no knowledge of the presence of any previous on-site structures. Mr. Jones indicated that the subject site was farmed at some point in the past; however, he was not aware of the type

of crop(s) cultivated. Mr. Jones indicated that he is not aware of the presence of imported soil on the subject site. Mr. Jones indicated that the subject site is not currently connected to municipal water and sewer service.

According to Mr. Jones, to the best of his knowledge, no use, storage, or disposal of hazardous materials; no existing or former ASTs or USTs; no hazardous materials spills, no environmental cleanups, no on-site treatment and/or discharge of waste; no environmental liens, AULs, engineering or institutional controls, no on-site leach fields, dry wells, sumps, or disposal ponds; no buried materials; no monitoring, domestic, or irrigation wells; or any items of environmental concern are associated with the subject site. Mr. Jones indicated that he is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property, nor is he aware of any soil or groundwater contamination issues at or proximate to the subject site. Mr. Jones indicated that the reason for preparation of this Phase I ESA is related to a proposed property sale and indicated that the purchase price of the subject site reasonably reflects fair market value. Mr. Jones indicated that the property purchaser plans to develop the property. Refer to Appendix B – *Phase I ESA Questionnaires* for details.

Previous Subject Site Owner Interview

A Phase I ESA interview with a previous owner of the subject site was not conducted as contact information was not reasonably available.

5.4 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.

5. Commonly known or *reasonably ascertainable* information about the *property*.

6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

7. The reason for preparation of this Phase I ESA.

On May 9, 2024, a completed Phase I ESA User questionnaire was received from Mr. Rabie Mekideche, representative of Lennar Homes of California, LLC, Krazan's client and the Phase I ESA user. According to the questionnaire responses, Mr. Mekideche, to the best of his knowledge as the user of this Phase I ESA, was not aware of any environmental cleanup liens and/or activity or land use limitations which have been filed or recorded against the subject site. Mr. Mekideche indicated that he has no knowledge of the past uses of the subject site. Mr. Mekideche has no specialized knowledge or experience of the prior nature of the business or chemical utilization on the subject site. Mr. Mekideche indicated that he did not have knowledge of the past or current presence of specific chemicals or hazardous materials, unauthorized spills or chemical releases or of any environmental cleanups in connection with the subject site. Mr. Mekideche indicated that he is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Mr. Mekideche indicated that the purchase price of the subject site reasonably reflects fair market value and indicated that the reason for preparation of this Phase I ESA is related to property purchase due diligence. Refer to Appendix B – *Phase I ESA Questionnaires* for details.

6.0 SITE RECONNAISSANCE

A site reconnaissance, which included a visual observation of the subject site and surrounding properties, was conducted by Mr. Bill Vick, Krazan's Environmental Professional, on May 24, 2024. Krazan's Environmental Professional was unescorted during the site reconnaissance. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions, including hazardous substances and petroleum products, in connection with the property (including soils, surface waters, and groundwater).

6.1 Observations

The following table summarizes the subject site features encountered during our site reconnaissance. Observed features are noted in the table below and described in detail below the table. Refer to Figure No. 3 - *Site Map* and *Photographs* for locations and details pertaining to site-specific features discussed in this section of the report.

Site Reconnaissance Summary		
Features	***Observed***	***Not Observed***
Structures (existing)		X
Evidence of Past Uses (foundations, debris)	X	
Hazardous Substances and/or Petroleum Products (including containers)		X
Aboveground Storage Tanks (ASTs)		X
Underground Storage Tanks (USTs) or evidence of USTs		X
Evidence of Underground Pipelines (non-irrigation)		X
Strong, Pungent, or Noxious Odors		X
Pools of Liquid likely to be Hazardous Materials or Petroleum Products		X
Drums		X
Unidentified Substance Containers		X
Potential Polychlorinated Biphenyl (PCB)-Containing Equipment		X
Subsurface Hydraulic Equipment		X
Heating/Ventilation/Air Conditioning (HVAC)		X
Stains or Corrosion on Floors, Walls or Ceilings		X
Floor Drains, Sumps, or Oil/Water Clarifiers		X
Storm Drains		X
Pits, Ponds, or Lagoons		X
Stained Soil and/or Pavement		X
Soil/Debris Piles		X
Stressed Vegetation		X
Waste or Wastewater (including stormwater) Discharges to Surface/Surface Waters		X

Site Reconnaissance Summary (continued)		
Features	***Observed***	***Not Observed***
Wells (Irrigation, Domestic, Dry, Injection, Abandoned, Monitoring Wells)		X
Septic Systems		X
High-voltage, tower-mounted transmission lines		X

The subject site was relatively flat vacant land at the time of the site reconnaissance. An east-west trending former irrigation canal was present in the northern portion of the subject site. The irrigation canal was dry, vegetation filled, and did not appear to have been utilized recently. No odors, surface staining/discolored soil, stressed vegetation, or other obvious evidence of the presence of hazardous materials were noted in association with the former irrigation canal. The area north of the irrigation canal, an area historically occupied by rural residential and farm structures, was densely covered with vegetation two to four feet high in most areas. Although the density of vegetation within this portion of the subject site precluded thorough observation of the ground surface, no evidence of the presence of features of potential environmental concern such as surface evidence of historical fuel USTs or septic systems was noted within the confines of this observational limitation. No significant remnants of the former on-site structures nor surface evidence of water wells were observed.

The area south of the former irrigation canal appeared to be former agricultural land which had been mowed recently in association with a native grass hay harvest. Site observation conditions were good within this portion of the subject site. Site conditions were very similar in the areas north and south of Campus Parkway which bisects this portion of the subject site. Property upkeep was observed to be good, and no evidence of illegal dumping or surface waste disposal was observed within the area of the subject site south of the irrigation canal. A north-south trending former irrigation ditch approximately 150 feet in length was present in the southwestern portion of the subject site. A steel pipe protruding from the ground surface and a concrete standpipe located in the southwestern corner of the subject site appear to have fed the irrigation ditch with water from an off-site source, likely water from a permanent irrigation canal located on the southern adjacent property. The on-site irrigation ditch was dry, vegetation filled, and did not appear to have been utilized recently. No odors, surface staining/discolored soil, stressed vegetation, or other obvious evidence of the presence of hazardous materials were noted in association with the former irrigation ditch. Based on the presence of former irrigation features, subsurface irrigation piping may be present on the subject site.

No fill stations at water wells or elevated water fill spouts characteristic of agricultural chemical spray rig filling/mixing areas were observed on the subject site.

During the visual observations of the subject site, no hazardous materials or hazardous waste were observed. No noxious odors or stressed vegetation were noted. Exposed surface soils did not exhibit obvious signs of discoloration. No obvious evidence (vent pipes, fill pipes, dispensers, etc.) of USTs was noted within the areas observed. No indications of former structures were observed on the subject site. No pole- or pad-mounted electrical transformers were observed on the subject site. No high-voltage tower-mounted electrical transmission lines were observed on the subject site.

6.2 Adjacent Streets and Property Usage

The following table summarizes the current adjacent streets and adjacent property uses observed during the site reconnaissance:

Adjacent Streets and Property Usage		
Direction	***Adjacent Street***	***Adjacent Property Usage***
North	East Gerard Avenue Campus Parkway bisects the subject site	Residential – Single-Family Homes
South	East Mission Avenue Campus Parkway bisects the subject site	Residential – Single-Family Homes Agricultural Land
East	Campus Parkway	Agricultural Land Vacant Land
West	None	Agricultural Land Vacant Land

Based on the observed uses of the properties located immediately adjacent to the subject site, it is unlikely that significant quantities of hazardous materials currently are stored at these properties.

6.3 ASTM Non-Scope Considerations

According to ASTM E 1527-21, there may be environmental issues or conditions at assessed properties that are outside the scope of the Phase I ESA practice (non-scope considerations). Some substances may be present in quantities and under conditions that may lead to contamination of the subject site or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601[14]). ASTM Non-scope considerations appropriate for the subject site are discussed below.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the earth's crust. A radon survey was not included within the scope of this investigation; however, the State of California Department of Public Health (CDPH) maintains a statewide database of radon results in designated geographic areas. Radon detection devices are placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be 4.0 pico Curies per liter (pCi/L).

The US EPA has prepared a map to assist National, State and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 3, where average predicted radon levels are below 2.0 pCi/L. Therefore, the available data suggests that the potential for radon to adversely impact the subject site appears to be low.

Wetlands

As defined by the U.S. EPA and the Department of Army, Corps of Engineers, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Jurisdictional wetlands are regulated under Section 404 of the Clean Water Act (1972, 1977, and 1987, and also the 1985 and 1990 Farm Bills), and are important for protection of aquatic waterfowl and species, water purification, and flood control. According to current Corps of Engineers information, three basic criteria are currently used to define wetlands:

- Wetland hydrology - areas exhibiting surface or near-surface saturation or inundation at some point in time (greater than 12.5 percent of growing season defined on basis of frost-free days) during an average rainfall year.

- Hydrophilic vegetation - frequency of occurrence of wetland indicator plants (plant life growing in water, soil, or substrate that is periodically deficient in oxygen as a result of excessive water content).

- Hydric soil - landscape patterns identified by saturation, flooding, or ponding long enough during the growing season (generally seven days) which develop characteristic color changes in the upper part of the soil as a result of anaerobic conditions.

According to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website on May 24, 2024, a designated Riverine wetland is located within the northern portion of the subject site. The USFWS-reported on-site wetland is associated with the on-site portion of an irrigation canal present on the subject site since at least 1937. While a definitive assessment of the presence of on-site wetland habitats is beyond the scope of this Phase I ESA, it is Krazan's experience that unlined, irrigation ditches are common within agricultural areas and these areas can seasonally be consistent with wetland environments. Prior to development of the subject site, an assessment can be conducted by a qualified biologist to establish if wetland habitats exist and to determine the impact of development should wetlands be identified on the subject site. Refer to Appendix C – *USFWS Map* for details.

Environmental Non-Compliance Issues

No material non-compliance issues were identified in connection with the subject site in the process of preparing this report.

Activity and Use Limitations

No activity and use limitations were identified in connection with the subject site in the process of preparing this report.

6.4 Regulatory Agency Records Review

A review of Federal and State regulatory databases was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses. The Federal and State environmental databases consulted in the course of this assessment were compiled by Environmental Data Resources, Inc. (EDR) and identified facilities within the search distances specified in ASTM 1527-21. Krazan did not verify the locations and distances of every property listed by the EDR Radius Map Report. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. No EDR-listed unmapped (non-geocoded) sites identified were determined to be located on or adjacent to the subject site. Refer to Appendix C – *EDR Radius Map Report* dated May 9, 2024 for details.

Regulatory records are reviewed based on the following criteria: 1) properties with known soils and/or groundwater releases considered to represent the potential for impact to the subject site that are located within 1,760 feet of the subject site for constituents of concern impacts or 528 feet of the subject site for petroleum hydrocarbon impacts; 2) properties that are adjacent or in proximity to the subject site included

within the EDR regulatory database report or noted during the site reconnaissance to possibly handle, store, or generate hazardous materials. Applicable property records are discussed below.

No Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site according to Krazan's May 23, 2024 review of the State of California Environmental Protection Agency (CalEPA) – Department of Toxic Substances Control Envirostor database and the Environmental Data Resources, Inc. (EDR) regulatory agency database report.

State of California Environmental Protection Agency

Krazan's May 23, 2024 review of the State of California Environmental Protection Agency (CalEPA) – Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no records of cleanup sites including State response sites, voluntary cleanup sites, school cleanup sites, or military or school evaluation sites are listed for the subject site, the adjacent properties, or properties located within 500 feet of the subject site.

State of California Regional Water Quality Control Board - GeoTracker

Krazan's May 23, 2024 review of the State of California Regional Water Quality Control Board (RWQCB) GeoTracker database available via the RWQCB Internet Website did not identify any cleanup sites including LUST sites, cleanup program sites, or military sites at the subject site, the adjacent properties, or properties located within 500 feet of the subject site.

California Department of Conservation, California Geologic Energy Management Division

Krazan's May 23, 2024 review of the State of California Department of Conservation, California Geologic Energy Management Division (CalGEM) Online Mapping System indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site. A plugged and abandoned dry hole is reported to be located beneath Campus Parkway approximately 550 feet northeast of the closest subject site boundary. Based on its status as a plugged dry hole and its location beneath a paved surface street 550 feet distant, there is no evidence to indicate that this plugged dry hole represents an environmental concern in connection with the subject site.

State of California Office of Emergency Services – Spills Database

Krazan's May 23, 2024 review of the State of California Office of Emergency Services (Cal OES) Spill Reports database, available via the Cal OES website indicated that no hazardous materials spill reports are included in the Cal OES Spill Reports database for the subject site APNs of 061-710-009 and 061-710-023 or the former subject site APNs of 061-250-050 and 061-250-094.

Merced County Department of Public Health – Division of Environmental Health

The Merced County Department of Public Health – Division of Environmental Health (MCDEH) is the lead regulatory agency or Certified Unified Program Agency (CUPA) for hazardous materials handling facilities located in Merced County. On May 9, 2024, the MCDEH was contacted regarding potential hazardous materials records including ASTs, USTs, leaking underground storage tanks (LUSTs), hazardous materials business plans (HMBPs), hazardous material releases, environmental cleanups, and/or hazardous waste generator records for the subject site APNs of 061-710-009 and 061-710-023 and the former subject site APNs of 061-250-050 and 061-250-094. According to Ms. Yolanda Alonso, representative of the MCEHD, no CUPA/hazardous materials records are on file with the MCDEH for the above-referenced subject site APNs.

Additionally, according to the California Environmental Reporting System (CERS) database available via the CalEPA Regulated Site Portal at the CalEPA website, as of May 24, 2024, no HMBP chemical inventory records and no CUPA compliance evaluation inspection records are included in the database for the subject site location or the adjacent properties indicating that hazardous materials are not stored in reportable quantity and that hazardous waste is not generated in reportable quantity at the subject site or the adjacent properties. Records are included in the CERS database for two properties located within 700 feet of the subject site which are discussed below:

Merced Ranch
3663 East Gerard Avenue
680 feet east

According to records on file with the MCDEH, the Merced Ranch occupant of the 3663 East Gerard Avenue address maintains a permit with the MCDEH as a chemical storage facility. According to information on file with the MCDEH as contained in the CERS database, a HMBP was submitted for this facility on May 1, 2018. Krazan's May 23, 2024 review of the CERS database indicated that two chemicals/hazardous materials are used/stored at this property in reportable quantity, including: 1) gasoline (120-599 gallons), and 2) diesel fuel (120-599 gallons), both likely stored in aboveground storage tanks. No compliance evaluation inspections of this facility were included in the CERS database. Krazan's review of records on file with the MCDEH as contained in the CERS database for this facility/property address revealed no evidence of a documented release of

fuel/hazardous materials to the subsurface. Consequently, there is no evidence to indicate that this facility currently represents an environmental concern in connection with the subject site.

Tractor Supply Company Store #2600
882 South Coffee Street
700 feet west

According to records on file with the MCDEH, the Tractor Supply Company occupant of the 882 South Coffee Street address maintains permits with the MCDEH as a chemical storage facility and as a hazardous waste generator. According to information on file with the MCDEH as contained in the CERS database, a HMBP was submitted for this facility on February 26, 2024. Krazan's May 23, 2024 review of the CERS database indicated that seven chemicals/hazardous materials are used/stored at this property in reportable quantity, including: 1) six categories of hazardous wastes that are potentially generated via accidental breakage of the hazardous materials packaged for retail sale which are present in a Tractor Supply Company retail store (five waste categories in quantities of 0-11 gallons each and one waste category at 12-59 gallons), and 2) propane (600-1,199 gallons). Hazardous materials release response plan (HMRRP) and hazardous waste generator (HWG) compliance evaluation inspections of this facility conducted by the MCDEH on September 7, 2022 revealed no violations. Krazan's review of records on file with the MCDEH as contained in the CERS database for this facility/property address revealed no evidence of a documented release of hazardous materials to the subsurface. Consequently, there is no evidence to indicate that this facility currently represents an environmental concern in connection with the subject site.

Regulatory Database Review

Several agencies have published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EDR and Krazan and represent reasonably ascertainable current listings. Krazan did not verify the locations and distances of every property listed by EDR. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. No EDR-listed unmapped (non-geocoded) sites identified were determined to be located on or adjacent to the subject site.

- The Merced Gateway entry in the EDR database report is a listing for a NPDES and CIWQS site which likely includes the subject site. The NPDES and CIWQS listings are associated with the processing and presumed issuance of a permit for the control of stormwater runoff associated with construction activities. This NPDES permit application appears to have been processed in 2019 and terminated in November 2020. No violations or indications of an unauthorized release of hazardous material are noted in the EDR report. The issuance of an NPDES permit for an active or proposed construction site without evidence of violations associated with the permit does not represent an environmental concern in connection with the subject site.

- No EDR-listed facilities are located adjacent to the subject site.

- Karn Ice Cream, identified as 448 Azalea Court, A. S. Ice Cream, identified as 408 Lily Drive, and Accio Treats, identified as 440 Daffodil Drive, are listed in the EDR report as CUPA Listing sites located 385 to 716 feet from the subject site. However, all three of these addresses are associated

with single-family homes located in a residential subdivision north of the subject site. It is likely that these residential addresses are CUPA file addresses for the referenced food service businesses which operate as mobile businesses or at other locations. Consequently, there is no evidence to indicate that the above-referenced addresses represent an environmental concern in connection with the subject site.

Hazardous Materials Migration in Soils and/or Groundwater

No sites with reported releases of hazardous materials to the subsurface were reported within a 1,250-foot radius of the subject site. In general, potentially hazardous materials or petroleum products released from facilities located generally hydraulically upgradient within the subject site vicinity, or in a hydraulically cross-gradient direction in proximity to the site, may have a reasonable potential of migrating to the subject site via groundwater flow. This opinion is based on the assumption that non-vaporous hazardous materials generally do not migrate large distances laterally within the soil, but rather tend to migrate with groundwater in the general direction of groundwater flow. However, the potential for migration of volatile hazardous materials may include movement within soils, groundwater flow or potentially omni-directionally if present in a vaporous state.

Hazardous Materials Migration in Vapor

Hazardous materials or petroleum product vapors which may have the potential to migrate into the subsurface of the subject site may be caused by the release of vapors from contaminated soil or groundwater either on or in the vicinity of the subject site from current or historical uses of the subject site and/or adjacent or vicinity properties. Current or past land uses such as gasoline stations (using petroleum hydrocarbons), dry cleaning establishments (using chlorinated volatile organic compounds), former manufactured gas plant sites (using volatile and semi-volatile organic compounds), and former industrial sites such as those that had vapor degreasing or other parts-cleaning operations (using chlorinated volatile organic compounds) are of particular concern. Constituent of concern vapors are capable of migrating great distances omni-directionally along subsurface conduits such as pipelines, utility lines, sewer and stormwater lines, and building foundations.

Based on Krazan's observations and review of State and local regulatory agency records and the EDR regulatory database report, no listings of concern related to potential vapor migration were determined to be associated with the subject site, adjacent properties, or properties located within the subject site vicinity. The rationale supporting this opinion includes the following:

- Relevant sites had undergone investigation and remediation sufficient to receive regulatory agency closure.

- Sites with reported releases of minor quantities of constituents of concern (COCs), or COCs of limited volatility impacting soil only were considered of minimal concern.

- Sites with reported releases of COCs including volatile organic compounds (VOCs) were either of sufficient distance or hydraulically down- or cross-gradient from the subject site such that they do not appear to represent a significant potential for vapor migration on the subject site.

No engineering control sites, sites with institutional controls, or sites with deed restrictions were listed for the subject site, adjacent sites or vicinity properties in the EDR Report.

7.0 DISCUSSION OF FINDINGS

Summary of Conclusions		
Apparent Evidence of RECs/CRECs or PAOCs From	***Not Noted***	***Noted***
Historical Uses		X
Current Uses	X	
Adjacent or Vicinity Property Uses	X	

Historical Uses

Based on Krazan's review of historical aerial photographs and historical topographic maps, a site reconnaissance, contacts with the local regulatory agencies, and an interview with a representative of the owner of the subject site, there is no material evidence that RECs exist in connection with the historical uses of the subject site. However, potential areas of concern (PAOCs) were identified in connection with the subject site which are discussed in Section 8.0 of this report.

Current Uses

Based on Krazan's site reconnaissance, contacts with local regulatory agencies, and an interview with a representative of the owner of the subject site, there is no material evidence that RECs exist in connection with the current uses of the subject site. However, site development issues were identified in connection with the subject site which are discussed in Section 8.0 of this report.

Adjacent or Vicinity Property Uses

Based on Krazan's field observations, review of the EDR government database report, and consultation with local regulatory agencies, there is no material evidence that RECs exist in connection with the subject site from adjacent or vicinity property uses.

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-21 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

The following is a summary of data gaps encountered in the process of preparing this report including an observation as to the presumed significance of that data gap to the conclusions of this assessment:

- Absence of Final Title Report or Environmental Lien Search (Sections 5.1 and 5.2)

  A Final Title Report or Environmental Lien Search was not provided by the Phase I ESA user; therefore, a preliminary title report with attendant limitations was utilized in preparation of this report. Taken in consideration with the available information obtained in the course of preparing this report in connection with professional experience, there is no evidence to suggest that this data gap might alter the conclusions of this assessment. However, the contents of a Final Title Report or Environmental Lien Search are unknown.

- Absence of Interview with Previous Property Owner/Occupant (Section 5.3)

  A Phase I ESA interview with the previous owner of the subject site was not reasonably ascertainable. Consequently, information regarding the history and historical uses of the subject site obtained from an interview of the previous owner of the subject site constitutes a data gap. Taken in consideration with the available information obtained in the course of preparing this report in connection with professional experience, there is no evidence to suggest that this data gap might alter the conclusions of this assessment. However, the content of an interview with the previous property owner is unknown.

8.0 CONCLUSIONS

We have conducted a Phase I ESA of the subject site in conformance with the scope and limitations of the ASTM E 1527-21 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* guidance documents. Any deviations from this practice were previously described in this report. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in connection with the subject site as defined by ASTM E 1527-21. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that the northern portion of the subject site was occupied by a rural residential area from at least 1937 until at least 1998. The rural residential area included a varying number of dwellings, barns, and other outbuildings over the course of the 1937- to 1998-time interval, with at least three barn-type structures present in 1950 and five or six barn-type structures present in 1984. Additionally, historical aerial photographs of the subject site vicinity indicate the presence of on-site farming operations during the 1937- to 1998-time interval expected to have utilized fuel-powered trucks and farm equipment. Mr. Timothy Jones, a representative of the owner of the subject site familiar with the subject site for the past 17 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site, and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the subject site prior to the current owner of the subject site is unknown.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least 1998. While there is a potential that environmentally persistent pesticides/herbicides may have been applied to the crops grown on the subject site prior to the 1970s, no chemical spray rig filling/mixing areas or chemical storage areas were observed during the site reconnaissance, no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and the subject site does not appear to have been occupied by a vineyard or an orchard which are typically more directly correlated with the historical use of environmentally persistent pesticides/herbicides. Therefore, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to currently exist in the near-surface soils of the subject site appears to be low, although the actual condition of surficial soils is unknown.

Site Development Issues

- As indicated previously, review of historical aerial photographs indicates that the northern portion of the subject site was occupied by dwellings and outbuildings circa 1937. The dwellings were located on site from at least 1937 until at least 1998. It is presumed that all water wells and septic systems associated with the historical on-site structures were properly destroyed or removed from the subject site at the time that these structures were demolished in the early- to late-2000s. However, it is unknown if all water wells or septic systems were destroyed/removed from the subject site. If any water wells or septic systems are identified during the planned redevelopment of the subject site, they should be properly destroyed or removed in accordance with State and local guidelines.

- According to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website on May 24, 2024, a designated Riverine wetland is located within the northern portion of the subject site. The USFWS-reported on-site wetland is associated with the on-site portion of an irrigation canal present on the subject site since at least 1937. While a definitive assessment of the presence of on-site wetland habitats is beyond the scope of this Phase I ESA, it is Krazan's experience that unlined, irrigation ditches are common within agricultural areas and these areas can seasonally be consistent with wetland environments. Prior to development of the subject site, an assessment can be conducted by a qualified biologist to establish if wetland habitats exist and to determine the impact of development should wetlands be identified on the subject site. Refer to Appendix C – *USFWS Map* for details.

9.0 RELIANCE

This report was prepared solely for use by Client and should not be provided to any other person or entity without Krazan & Associates' prior written consent. No party other than Client may rely on this report without Krazan & Associates' express prior written consent. Reliance rights for third parties will only be in effect once requested by Client and authorized by Krazan & Associates with authorization granted by way of a Reliance Letter. The Reliance Letter will require that the relying party(ies) agree to be bound to the terms and conditions of the agreement between Client and Krazan & Associates as if originally issued to the relying party(ies), or as so stipulated in the Reliance Letter.

10.0 LIMITATIONS

The site reconnaissance and research of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a thorough site reconnaissance was conducted in accordance with ASTM Guidelines and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The findings presented in this report were based upon field observations during a single property visit, review of available data, and discussions with local regulatory and advisory agencies. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historical uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the environmental status of the other nearby properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

This report is provided for the exclusive use of the client noted on the cover page and shall be subject to the terms and conditions in the applicable contract between the client and Krazan. Any third-party use of this report, including use by Client's lender, shall also be subject to the terms and conditions governing the work in the contract between the client and Krazan. The unauthorized use of, reliance on, or release of the information contained in this report without the express written consent of Krazan is strictly prohibited and will be without risk or liability to Krazan.

Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments. Consequently, given the possibility for unanticipated hazardous conditions to exist on a subject site which may not have been discovered, this Phase I ESA is not intended as the basis for a buyer or developer of real property to waive their rights of recovery based upon environmental unknowns. Parties that choose to waive rights of recovery prior to site development do so at their own risk.

Parties who seek to rely upon Phase I Environmental Site Assessment reports dated more than 180 days prior to the date of reliance do so at their own risk. This limitation in reliance is based on the potential for physical changes at the site, changes in circumstances, technological and professional advances, and guidance related to the continued viability of Environmental Site Assessment reports, user's responsibilities, and requirements for updating of components of the inquiry as stated in the ASTM Standard E 1527-21.

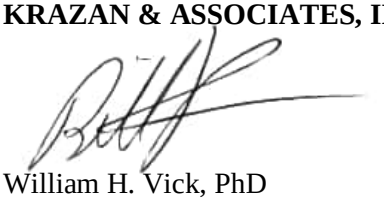
11.0 QUALIFICATIONS

This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental assessor with oversight from the undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-21 guidance, generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the

subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.



William H. Vick, PhD
Environmental Professional

Remington R. Alexander, PE
Environmental Regional Manager

WHV/RRA/mlt

REFERENCES

American Society for Testing and Materials (ASTM), *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process*, ASTM Designation: E 1527-21.

ASTM, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions,* ASTM Designation E 2600-22.

City of Merced Development Services Department.

City of Merced Fire Department.

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Environmental Data Resources, Inc. (EDR), Certified Sanborn Map Report.

Environmental Data Resources, Inc. (EDR), City Directory Abstract.

Environmental Data Resources, Inc. (EDR), Regulatory Database Report.

Environmental Data Resources, Inc. (EDR), Topographic Map Report.

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Mekideche, Mr. Rabie, Lennar Homes of California, LLC, Phase I ESA User Questionnaire.

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State of California Regional Water Quality Control Board, GeoTracker Website: http://GeoTracker.swrcb.ca.gov

State of California, Department of Water Resources, *Sustainable Groundwater Management Act (SGMA) Data Viewer, Spring 2023,* https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

U.S. Environmental Protection Agency (EPA) *Map of Radon Zones*.

U.S. Fish & Wildlife Service National Wetland Inventory *Wetlands Mapper:* http://www.fws.gov/wetlands/Data/Mapper.html

U.S. Geological Survey, 7.5-minute Merced, California topographic quadrangle map, dated 1987.

GLOSSARY OF TERMS

Subject Site: The real property being investigated under this Phase I ESA.

Adjacent Properties: Properties which are contiguous with the subject site, or would be contiguous except for a street, road, or other public thoroughfare.

Subject Site Vicinity: Properties located within a 500-foot radius of the subject site.

Environmental Professional: A person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). The EP may be an independent contractor or an employee of the user.

User: The party seeking to use Practice E 1527 to complete an environmental site assessment of the subject site. A user may include, without limitation, a potential purchaser of the subject site, a potential tenant of the subject site, an owner of the subject site, a lender, or a property manager.

Recognized Environmental Condition (REC): In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition (CREC): A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a CREC. The "control" is represented by the restriction that the property use remain commercial. A condition considered by the environmental professional to be a CREC shall be listed in the findings section of the Phase I ESA report and as an REC in the conclusions section. A condition identified as a CREC does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Historical Recognized Environmental Condition (HREC): A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release an HREC, the environmental professional must determine whether the past release is an REC at the time the Phase I ESA is conducted (for example, if there has been change in the regulatory criteria). If the EP considers the past release to be an REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as an REC.

GLOSSARY OF TERMS (continued)

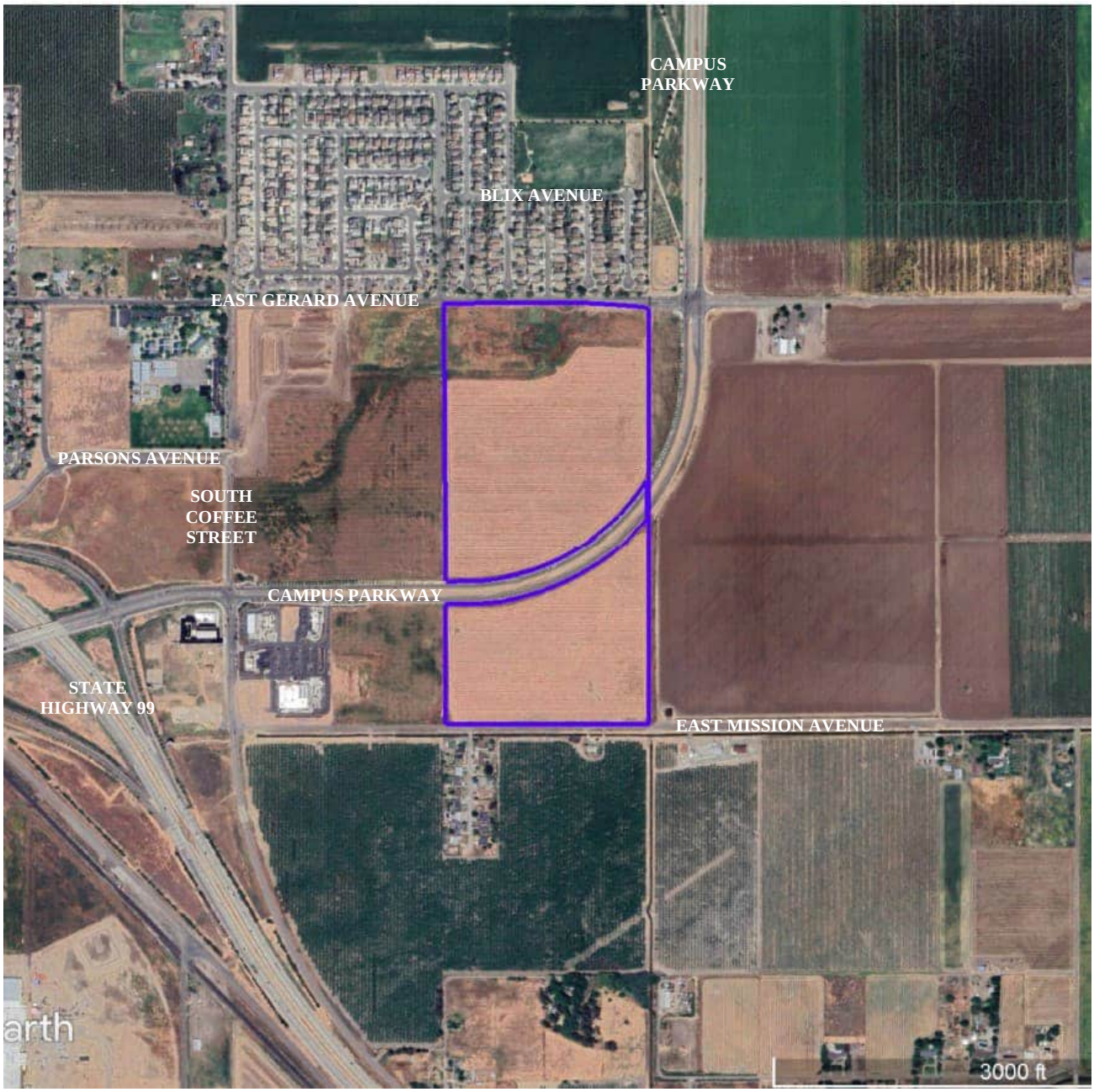
Potential Area of Concern (PAOC): A term adopted to provide an alternative designation to the REC and HREC for a range of environmental issues related to current subject site uses, historical subject site uses, or from adjacent and/or vicinity property uses. The PAOC is utilized to emphasize full disclosure and provide the User with conclusions and recommendations related to potential environmental issues in connection with the subject site based on Krazan's professional experience in cases where official documentation or other evidence may be absent in order to identify an REC or HREC, thereby aiding the User's considerations of environmental due diligence risk tolerance.

Migrate/migration: For the purposes of this practice, "migrate" and "migration" refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in ASTM E 2600-10 guidance; however, nothing in the E 1527-21 practice should be construed to require application of the E 2600-10 standard to achieve compliance with AAI.

De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Condition determined to be *de minimis conditions* are not RECS or CRECs.

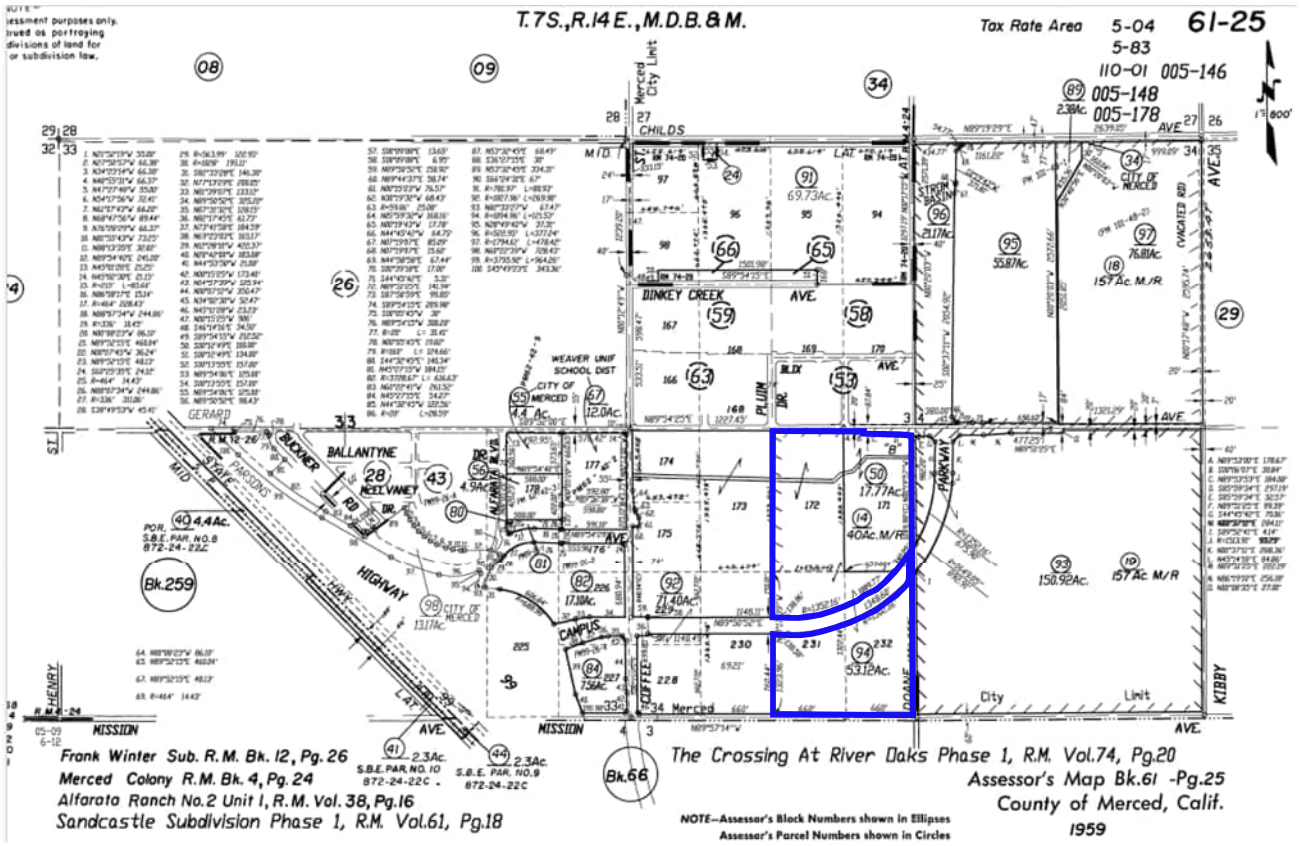
Data Gap: A lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to the site reconnaissance and interviews.

Data Failure: A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.



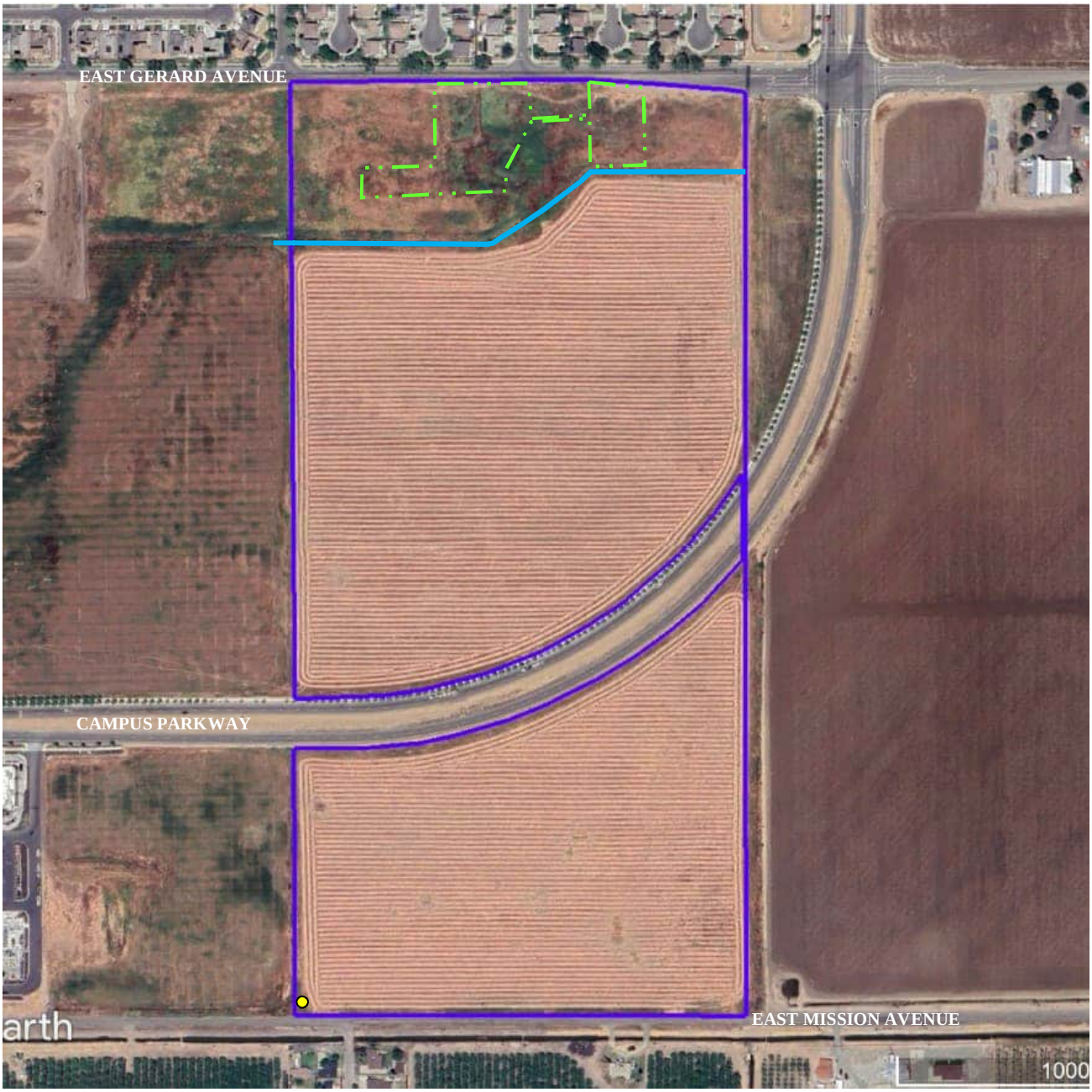
= SUBJECT SITE BOUNDARY

VICINITY MAP	Scale: NTS	Date: May 2024	Krazan
CAMPUS GATEWAY DEVELOPMENT CAMPUS PARKWAY APN 061-710-009 & A PORTION OF 061-710-023 MERCED, CALIFORNIA 95341	Drawn By: BV	Approved by: BV	SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western U. S.*
	Project No. 034-24036	Figure No. 1	



= SUBJECT SITE BOUNDARY (APPROXIMATE)
FORMER APN 061-250-050 = CURRENT APN 061-710-009
FORMER APN 061-250-094 = CURRENT APN 061-710-023

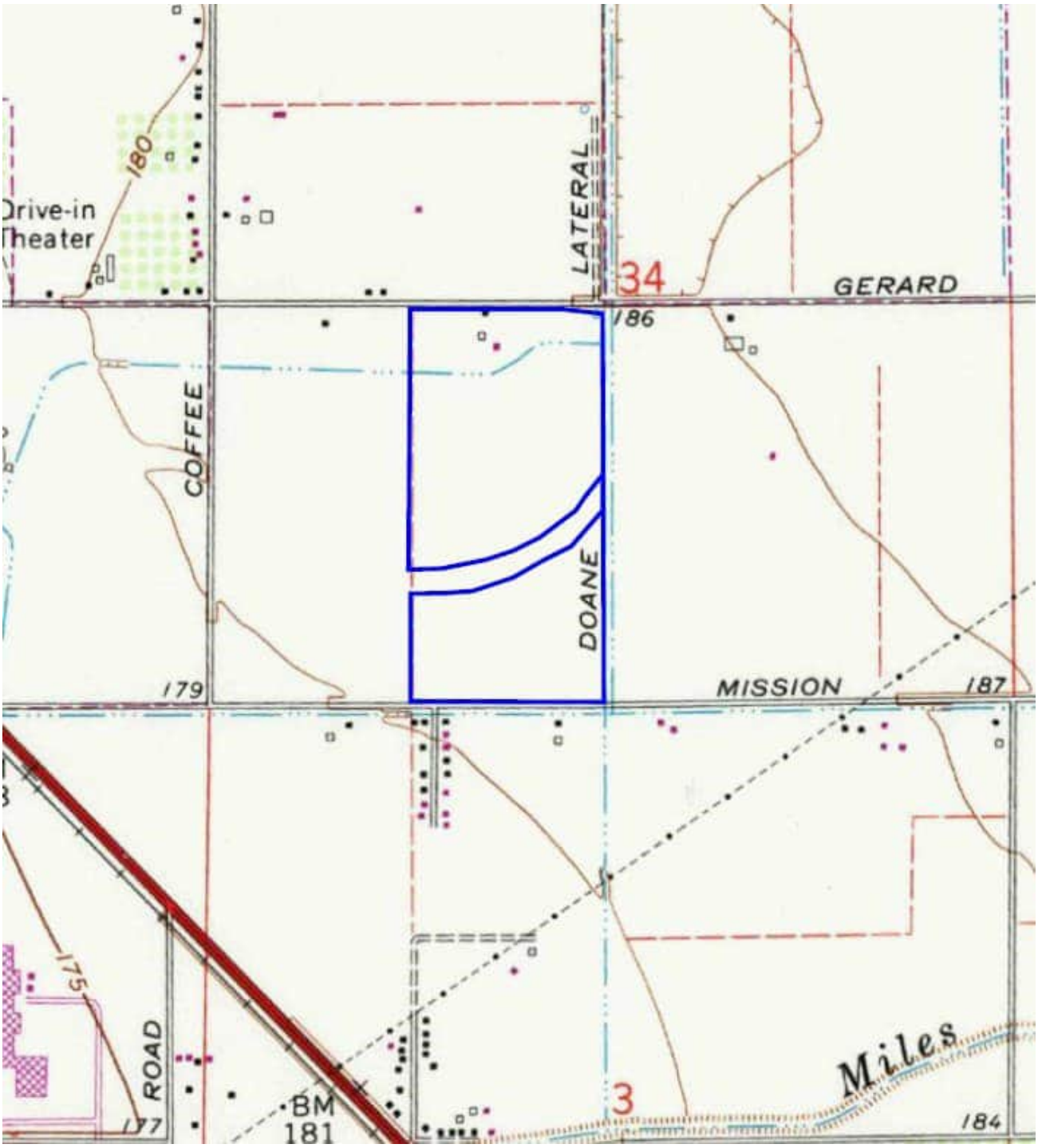
PARCEL MAP **CAMPUS GATEWAY DEVELOPMENT** **CAMPUS PARKWAY** **APN 061-710-009 & A PORTION OF 061-710-023** **MERCED, CALIFORNIA 95341**	**Scale:** NTS	**Date:** May 2024	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-24036	**Figure No.** 2	



= SUBJECT SITE BOUNDARY (APPROXIMATE)

= IRRIGATION PIPING ASSOCIATED WITH NORTHERN ADJACENT FORMER IRRIGATION DITCH
= IRRIGATION CANAL - NO LONGER IN USE
= AREA OCCUPIED BY HISTORICAL RESIDENTIAL/FARM STRUCTURES (1937 - 1984 AERIAL PHOTOS)

SITE MAP **CAMPUS GATEWAY DEVELOPMENT** **CAMPUS PARKWAY** **APN 061-710-009 & A PORTION OF 061-710-023** **MERCED, CALIFORNIA 95341**	**Scale:** NTS	**Date:** May 2024	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-24036	**Figure No.** 3	



7.5-MINUTE SERIES
USGS TOPOGRAPHIC MAP
MERCED, CALIFORNIA
DATED 1987

= SUBJECT SITE BOUNDARY

N

TOPOGRAPHIC MAP	Scale: NTS	Date: May 2024	Krazan
CAMPUS GATEWAY DEVELOPMENT **CAMPUS PARKWAY** **APN 061-710-009 & A PORTION OF 061-710-023** **MERCED, CALIFORNIA 95341**	**Drawn By:** BV	**Approved by:** BV	**SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Project No. 034-24036	**Figure No.** 4	

Photo 1: Southeastern-facing view of the oldest portion of the former rural residential area located in the central northern part of the subject site.

Photo 2: Western-facing view of the eastern-most portion of the former rural residential area located in the northeastern part of the subject site.

Photo 3: Eastern-facing view of the northwestern portion of the subject site (northwestern portion of APN 061-710-023 – north of the irrigation canal).

Photo 4: Western-facing view of the northeastern portion of the subject site (northern portion of APN 061-710-009 – north of the irrigation canal).

Photo 5: Northern-facing view of the oldest portion of the former rural residential area located in the central northern part of the subject site.

Photo 6: Western-facing view of the eastern portion of the former irrigation canal located in the northern portion of the subject site (northern portion of APN 061-710-009).

Photo 7: Western-facing view of the western portion of the former irrigation canal located in the northern portion of the subject site (northwestern portion of APN 061-710-023).

Photo 8: Southern-facing view of the northwestern portion of the subject site (northwestern portion of APN 061-710-023 – south of the irrigation canal).

Photo 9: Southwestern-facing view of the northeastern portion of the subject site (central portion of APN 061-710-009 – south of the irrigation canal).

Photo 10: Northern-facing view of the central portion of the subject site (southern portion of APN 061-710-009).

Photo 11: Northern-facing view of the central-western portion of the subject site (central-western portion of APN 061-710-023).

Photo 12: Southern-facing view of the central-eastern portion of the subject site (northeastern portion of APN 061-710-023 – south of Campus Parkway).

Photo 13: Western-facing view of the southeastern portion of the subject site (southeastern portion of APN 061-710-023 – south of Campus Parkway).

Photo 14: Northern-facing view of the southwestern portion of the subject site (southwestern portion of APN 061-710-023 – south of Campus Parkway).

Photo 15: Eastern-facing view of the central-western portion of the subject site (central-western portion of APN 061-710-023 – south of Campus Parkway).

Photo 16: View of irrigation water fill pipe features and the former irrigation ditch located in the southwestern corner of the subject site.

Photo 17: Eastern-facing view of the surface street, Campus Parkway, which bisects the subject site.

Photo 18: View of vacant land located adjacent to the east of the northern portion of the subject site.

Photo 19: View of agricultural land located adjacent to the east of the southern portion of the subject site.

Photo 20: View of East Mission Avenue, the dwelling, and the orchard located adjacent to the south of the central and eastern portions of the subject site.

Photo 21: View of East Mission Avenue and the single-family homes located adjacent to the south of the western portion of the subject site.

Photo 22: View of the vacant land located adjacent to the west of the southern portion of the subject site.

Photo 23: View of the vacant land located adjacent to the west of the central and northern portions of the subject site.

Photo 24: View of the residential subdivision located adjacent to the north of the subject site.

Appendix A

Proposed Residential Property

Campus Parkway

Merced, CA 95341

Inquiry Number: 7647153.3

May 09, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

05/09/24

Site Name:	Client Name:
Proposed Residential Property	Krazan & Associates, Inc.
Campus Parkway	215 West Dakota
Merced, CA 95341	Clovis, CA 93612
EDR Inquiry # 7647153.3	Contact: Melanie L Thomas

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 1586-4C37-9EFD

PO # NA

Project 034-24036-BV

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 1586-4C37-9EFD

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Proposed Residential Property

Campus Parkway

Merced, CA 95341

Inquiry Number: 7647153.4

May 09, 2024

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

05/09/24

Site Name:	Client Name:
Proposed Residential Property	Krazan & Associates, Inc.
Campus Parkway	215 West Dakota
Merced, CA 95341	Clovis, CA 93612
EDR Inquiry # 7647153.4	Contact: Melanie L Thomas

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA

Project: 034-24036-BV

Coordinates:

Latitude:	37.2769 37° 16' 37" North
Longitude:	-120.426684 -120° 25' 36" West
UTM Zone:	Zone 10 North
UTM X Meters:	728151.21
UTM Y Meters:	4128694.81
Elevation:	184.39' above sea level

Maps Provided:

2021	1948
2018	1946
2015	1917
2012	1914
1987	
1976	
1962	
1961	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets

Merced
2021
7.5-minute, 24000

2018 Source Sheets

Merced
2018
7.5-minute, 24000

2015 Source Sheets

Merced
2015
7.5-minute, 24000

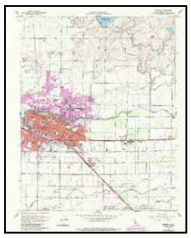
2012 Source Sheets

Merced
2012
7.5-minute, 24000

Topo Sheet Key

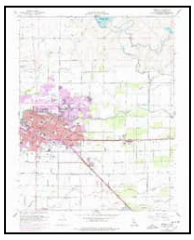
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1987 Source Sheets



Merced
1987
7.5-minute, 24000
Aerial Photo Revised 1984

1976 Source Sheets



Merced
1976
7.5-minute, 24000
Aerial Photo Revised 1976

1962 Source Sheets

Merced
1962
15-minute, 62500

1961 Source Sheets

Merced
1961
7.5-minute, 24000
Aerial Photo Revised 1960

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

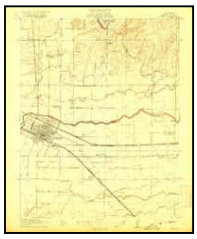
1948 Source Sheets

Merced
1948
7.5-minute, 24000

1946 Source Sheets

Merced
1946
7.5-minute, 24000

1917 Source Sheets



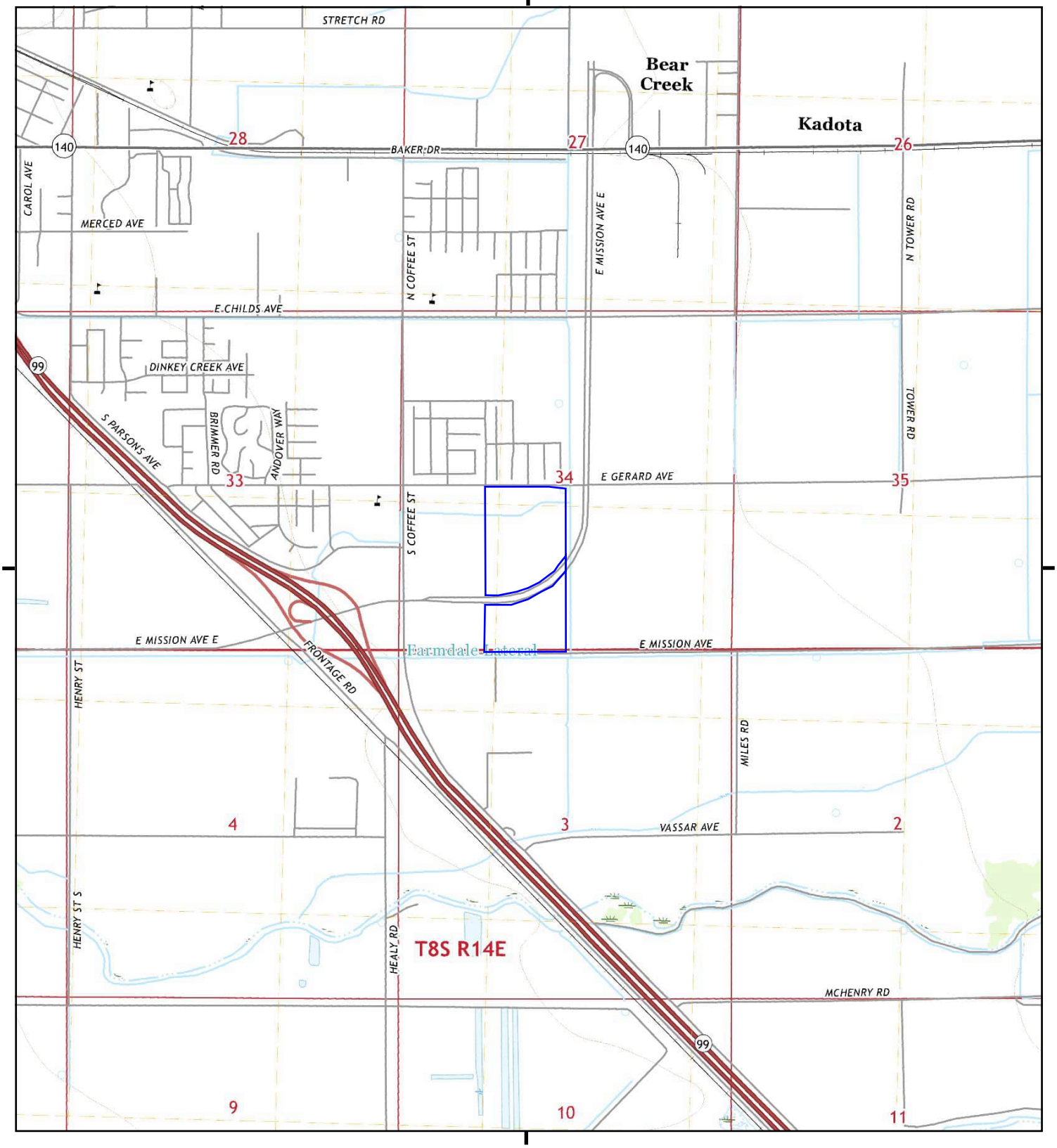
Merced
1917
7.5-minute, 31680

1914 Source Sheets

Merced
1914
7.5-minute, 31680

Historical Topo Map

2021



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

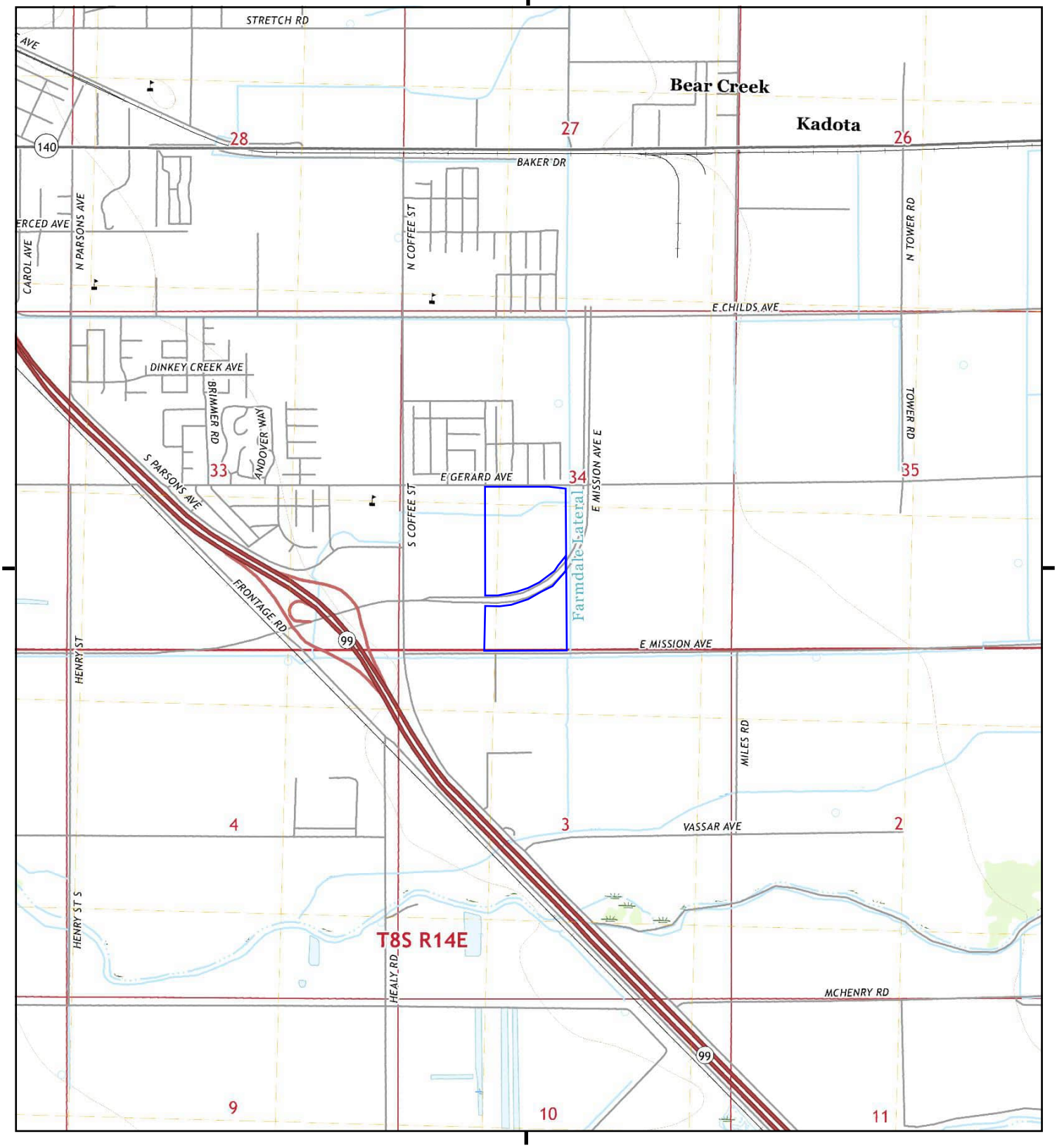
TP, Merced, 2021, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

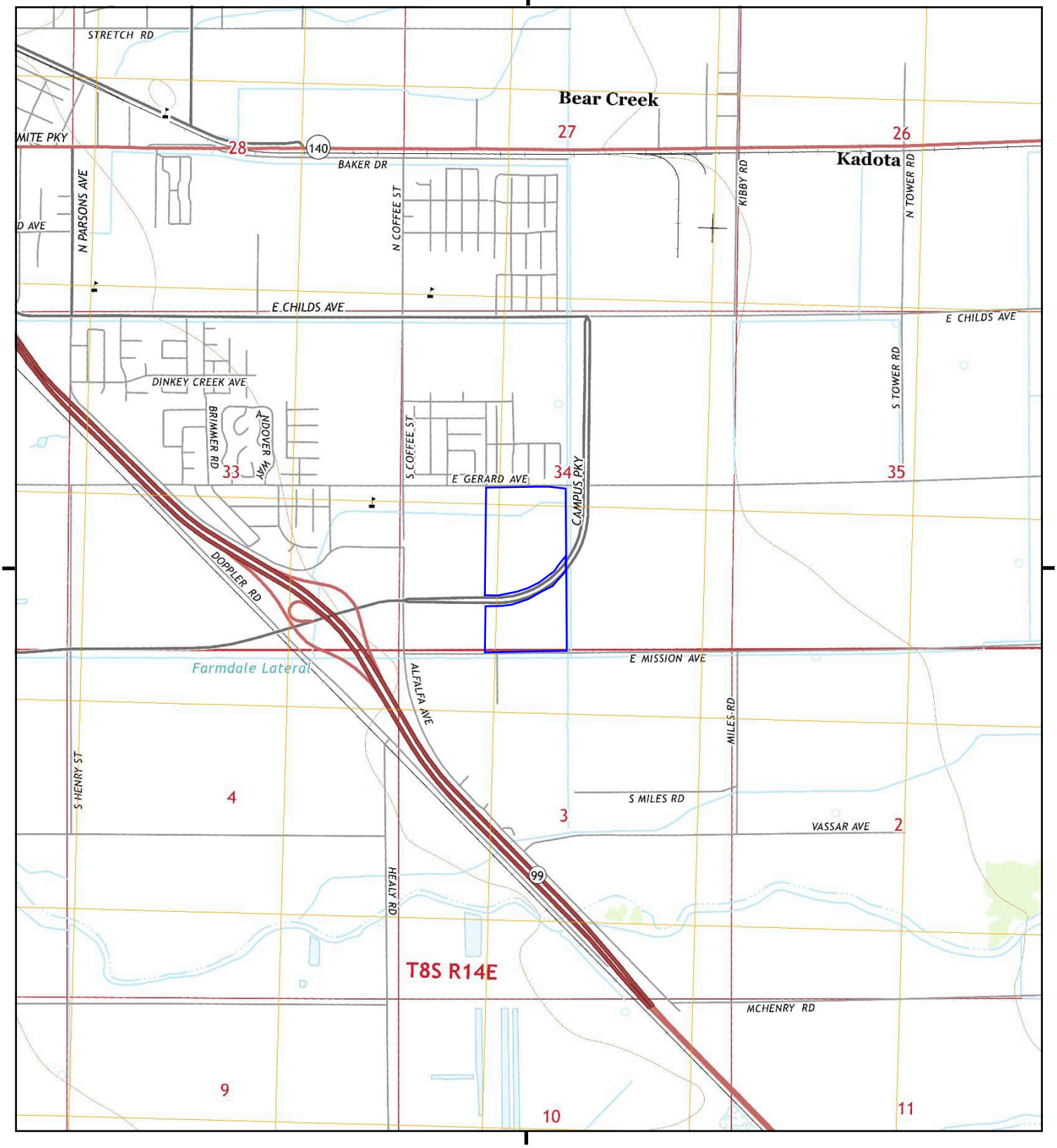
TP, Merced, 2018, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

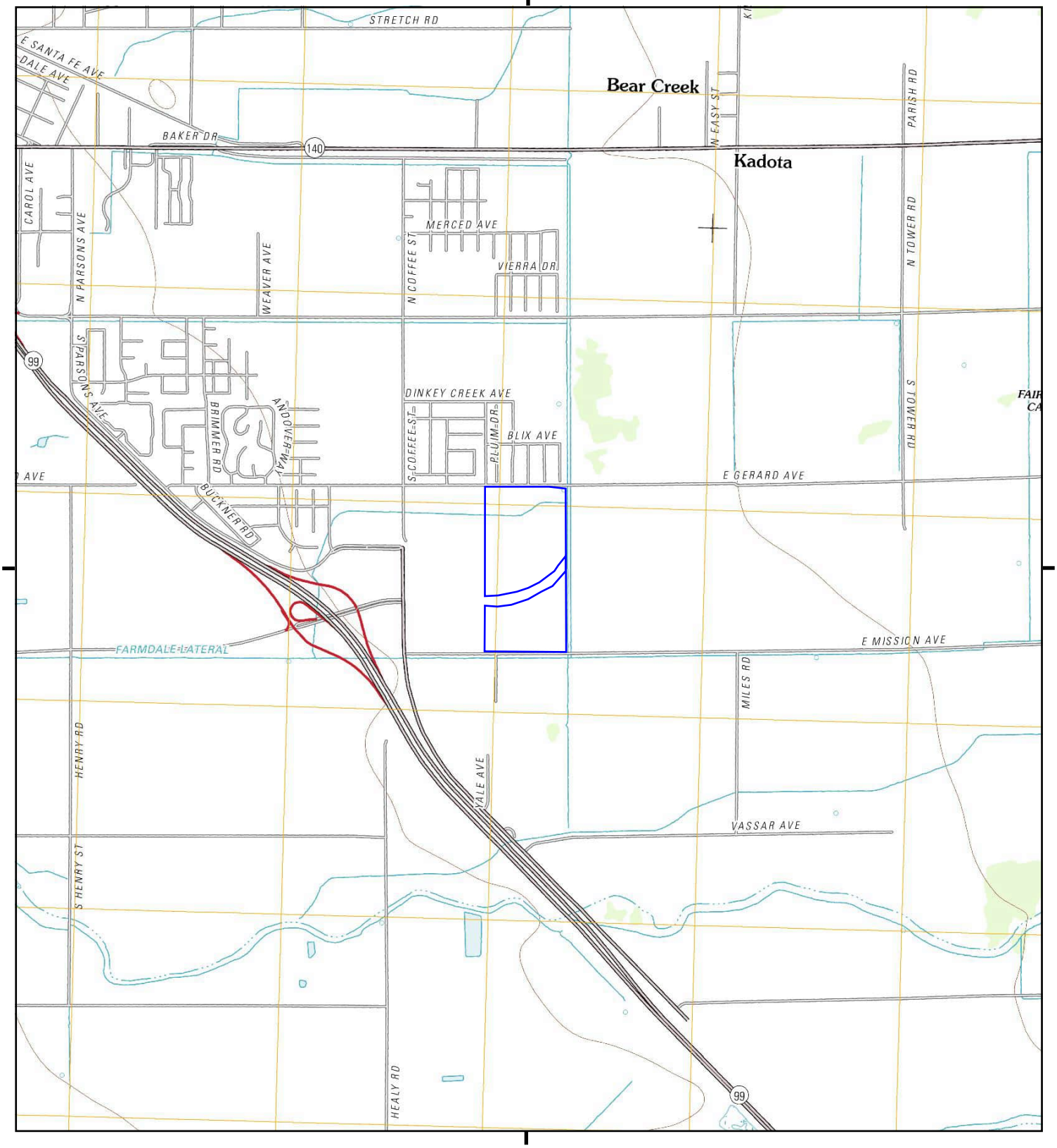
TP, Merced, 2015, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

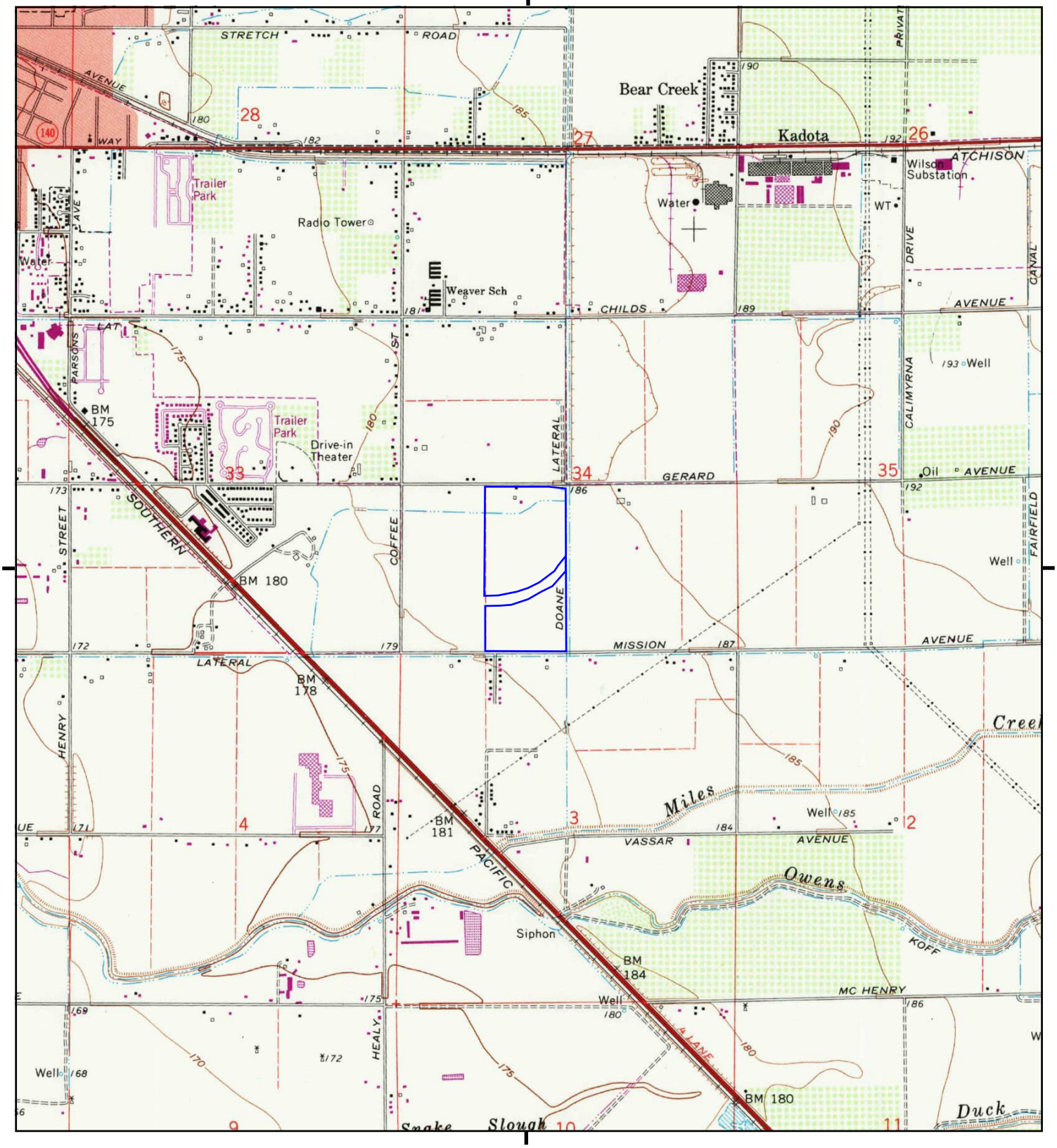
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Merced, 2012, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

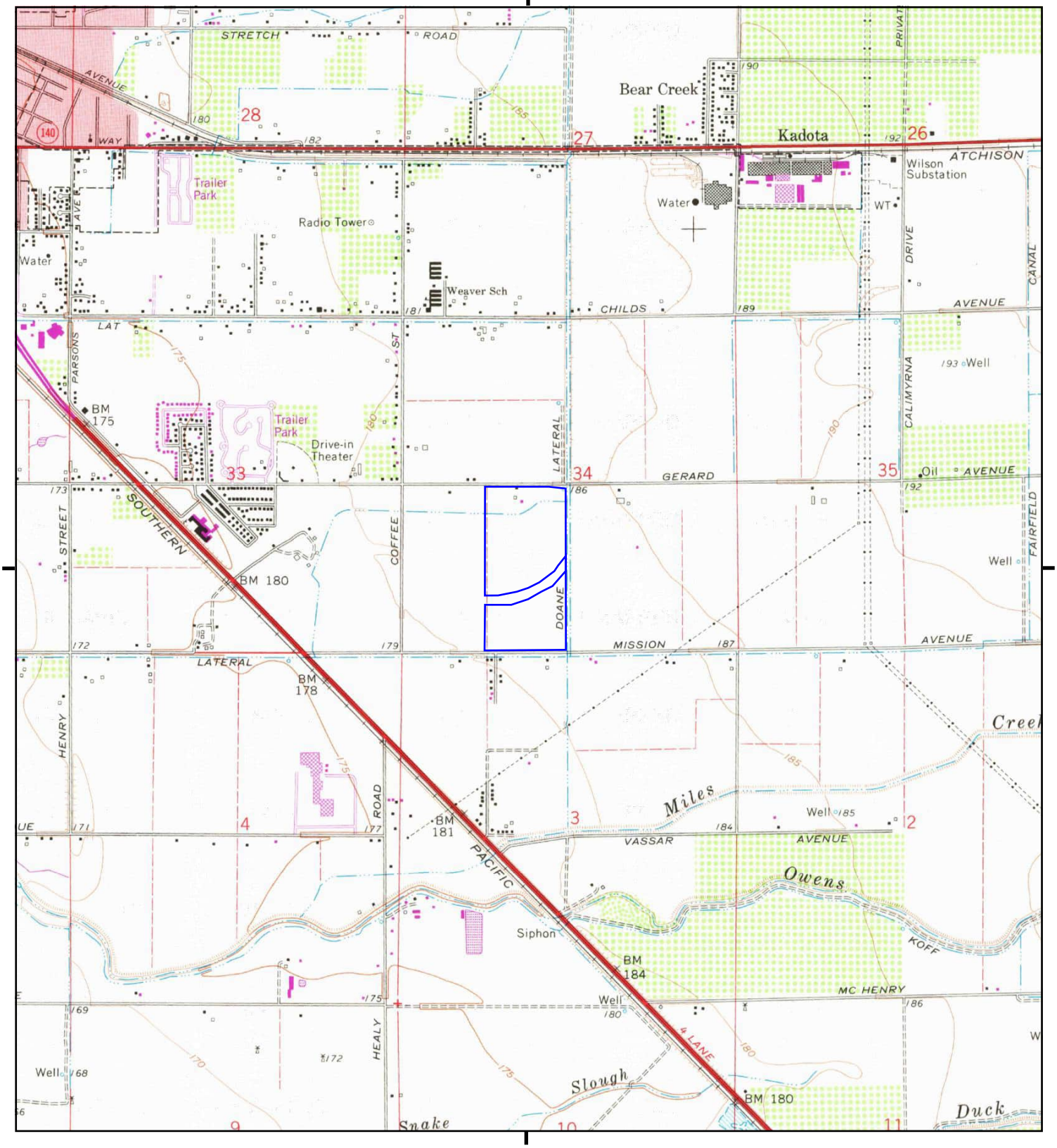
TP, Merced, 1987, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1976



This report includes information from the following map sheet(s).

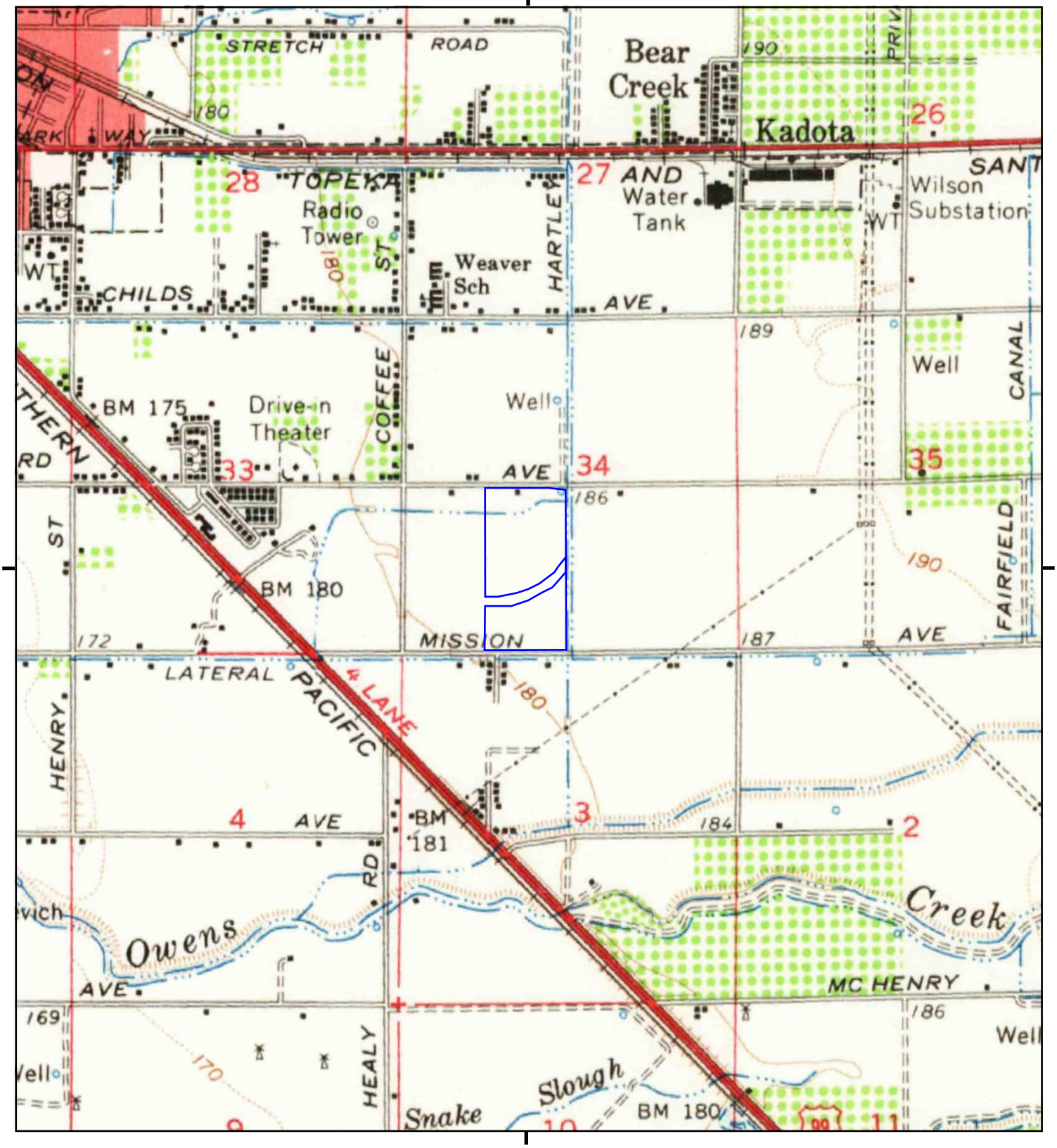
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Merced, 1976, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N



This report includes information from the following map sheet(s).

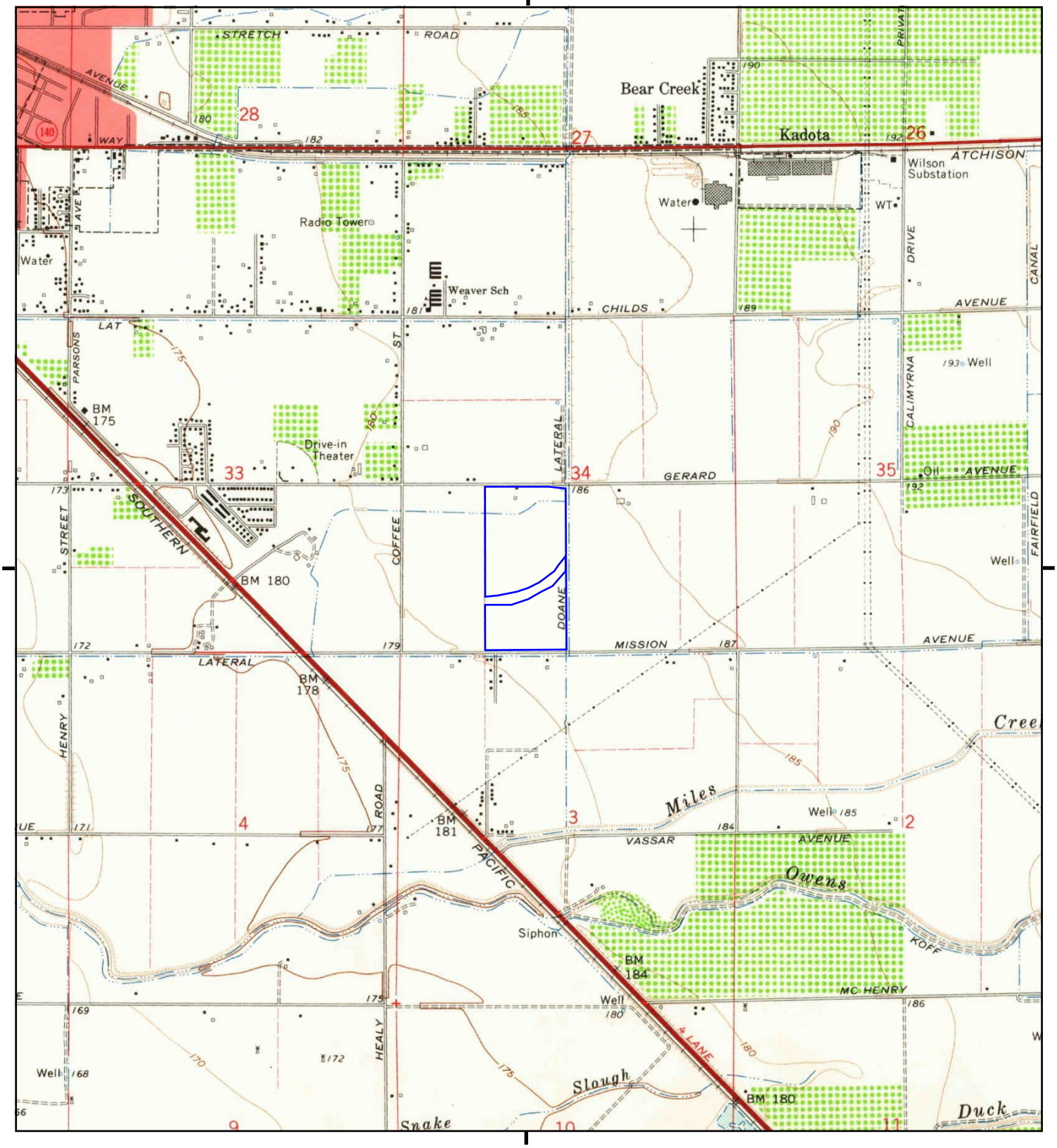
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Merced, 1962, 15-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

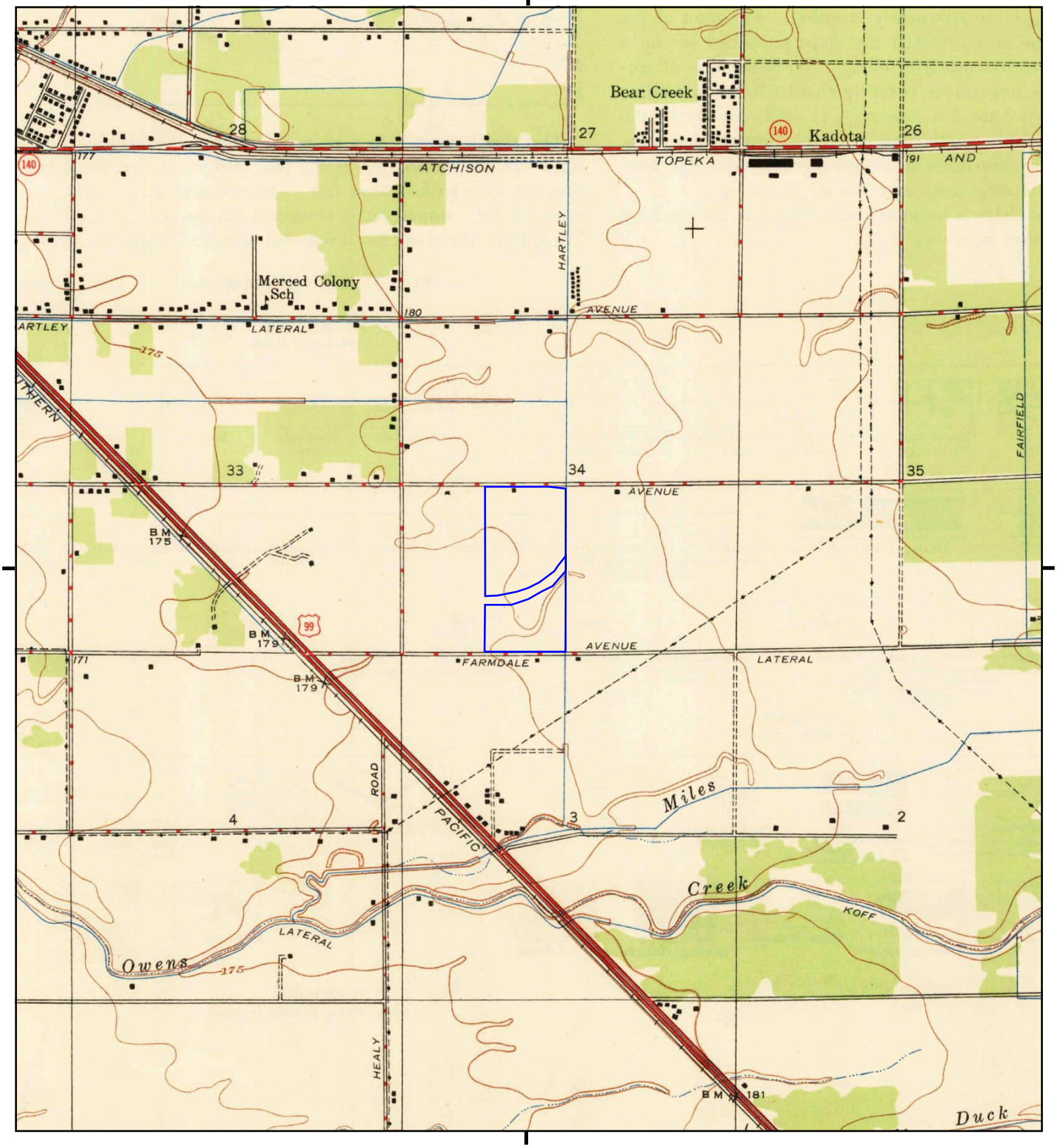
TP, Merced, 1961, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1948



This report includes information from the following map sheet(s).

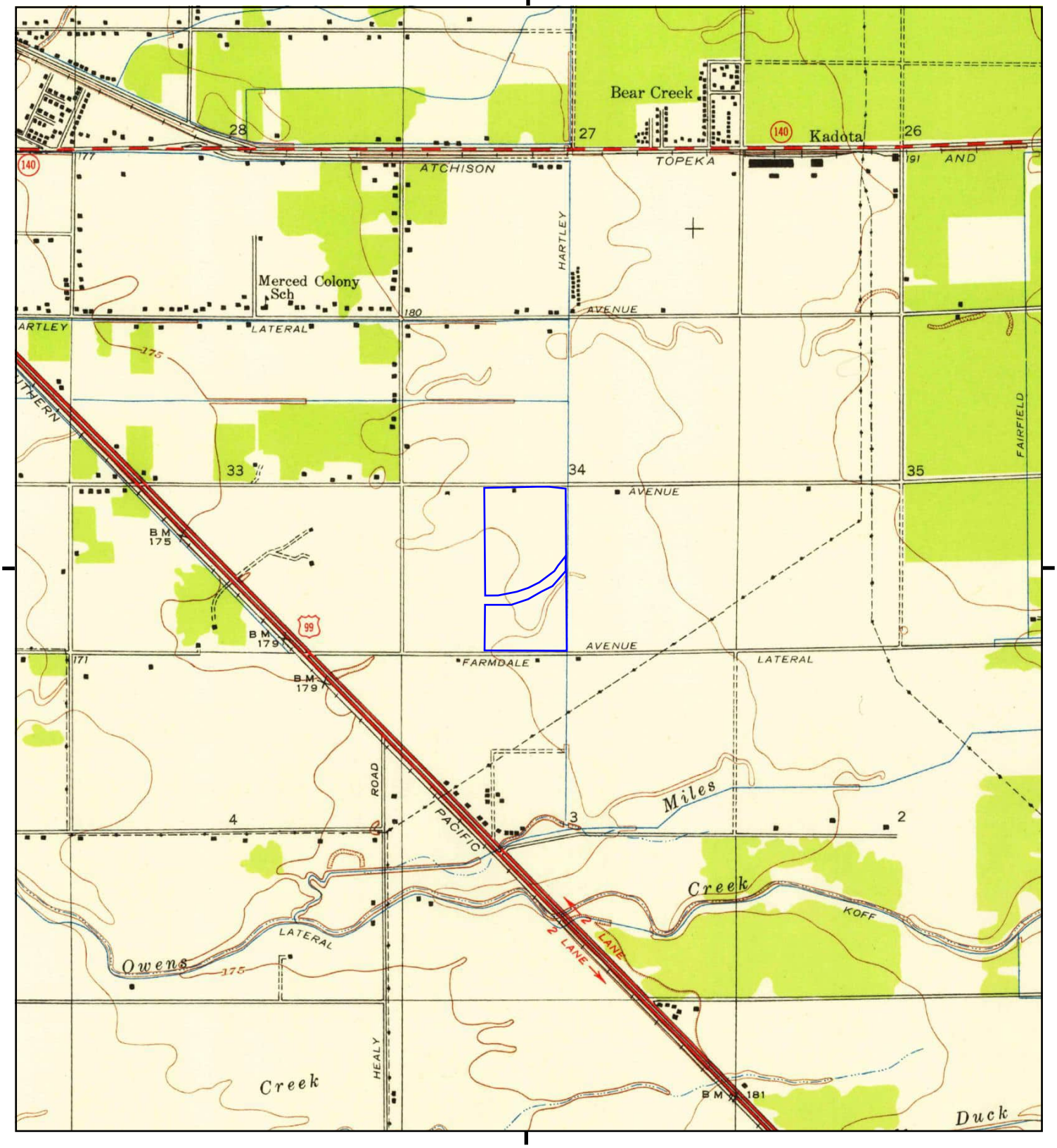
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Merced, 1948, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N



This report includes information from the following map sheet(s).

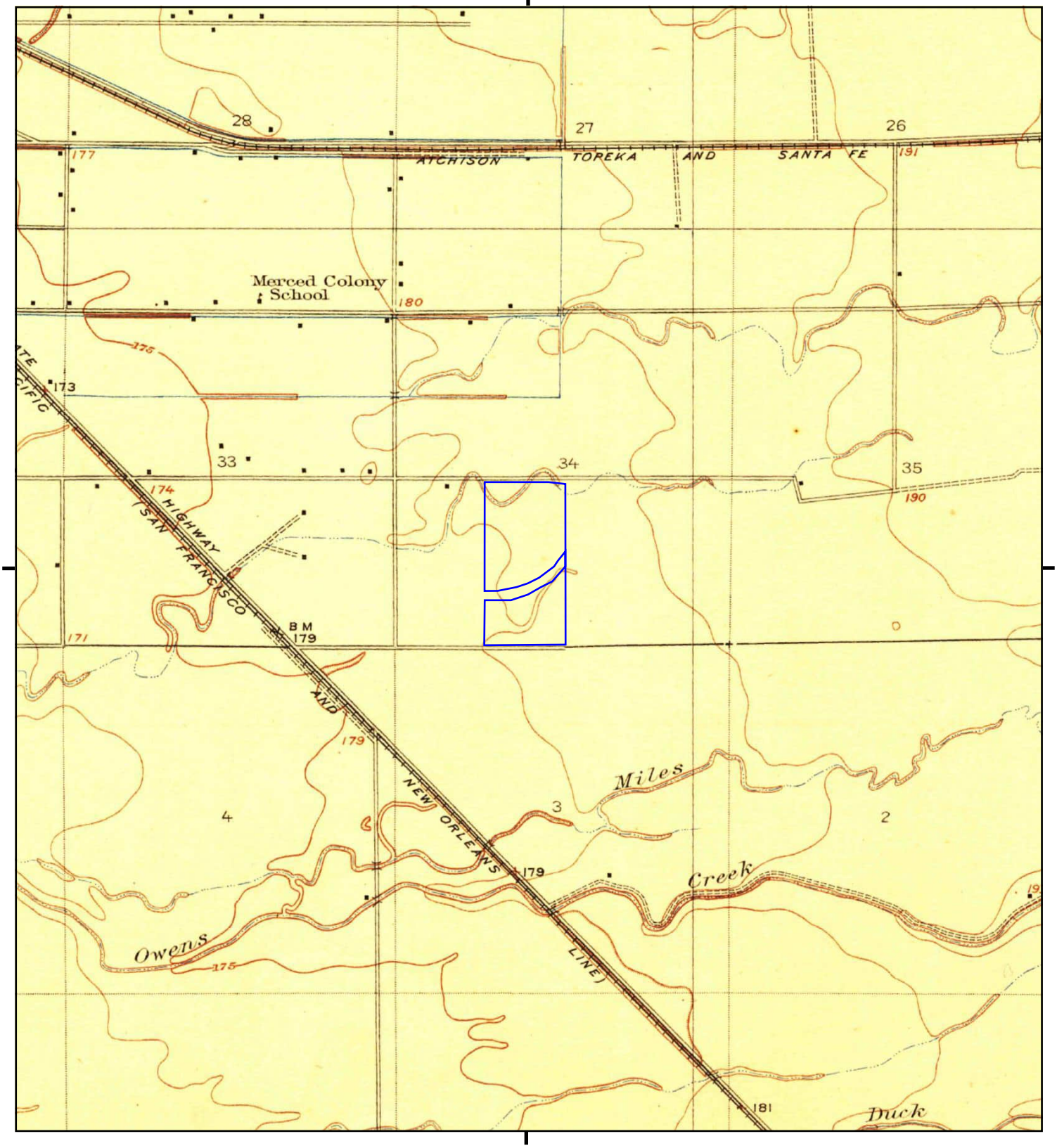
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Merced, 1946, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

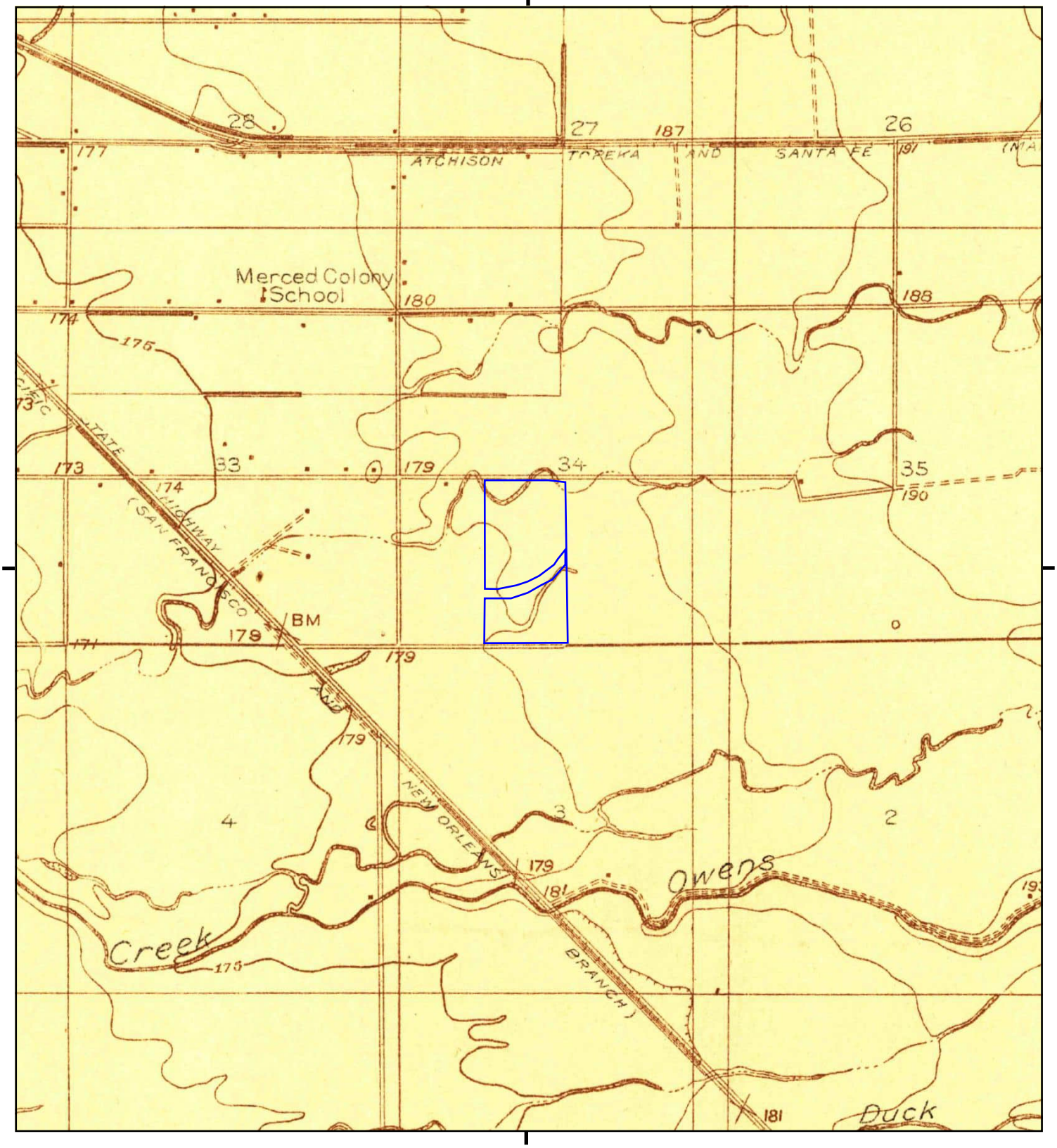
TP, Merced, 1917, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1914



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Merced, 1914, 7.5-minute

SITE NAME: Proposed Residential Property
ADDRESS: Campus Parkway
Merced, CA 95341
CLIENT: Krazan & Associates, Inc.

N

Proposed Residential Property
Campus Parkway
Merced, CA 95341

Inquiry Number: 7647153.5
May 13, 2024

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

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with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☐	☐	EDR Digital Archive
2017	☐	☐	Cole Information
2014	☐	☐	Cole Information
2010	☐	☐	Cole Information
2005	☐	☐	Cole Information
2000	☐	☐	Cole Information
1995	☐	☐	Cole Information
1990	☐	☐	Haines Criss-Cross Directory
1985	☐	☐	Haines Criss-Cross Directory
1979	☐	☐	Polk's City Directory
1974	☐	☐	Polk's City Directory
1969	☐	☐	Polk's City Directory
1964	☐	☐	Polk's City Directory
1960	☐	☐	Polk's City Directory
1952	☐	☐	Polk's City Directory

FINDINGS

TARGET PROPERTY STREET

Campus Parkway
Merced, CA 95341

Year	*CD Image*	*Source*	
CAMPUS PKWY			
2020	-	EDR Digital Archive	Street not listed in Source
2017	-	Cole Information	Street not listed in Source
2014	-	Cole Information	Street not listed in Source
2010	-	Cole Information	Street not listed in Source
2005	-	Cole Information	Street not listed in Source
2000	-	Cole Information	Street not listed in Source
1995	-	Cole Information	Street not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1979	-	Polk's City Directory	Street not listed in Source
1974	-	Polk's City Directory	Street not listed in Source
1969	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source
1960	-	Polk's City Directory	Street not listed in Source
1952	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

Proposed Residential Property

Campus Parkway

Merced, CA 95341

Inquiry Number: 7647153.8

May 10, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

05/10/24

Site Name:

Proposed Residential Property
Campus Parkway
Merced, CA 95341
EDR Inquiry # 7647153.8

Client Name:

Krazan & Associates, Inc.
215 West Dakota
Clovis, CA 93612
Contact: Melanie L Thomas

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Acquisition Date: January 01, 1998	USGS/DOQQ
1984	1"=500'	Flight Date: June 17, 1984	USDA
1976	1"=500'	Flight Date: July 20, 1976	USGS
1973	1"=500'	Flight Date: June 02, 1973	USGS
1950	1"=500'	Flight Date: February 18, 1950	USDA
1946	1"=500'	Flight Date: April 28, 1946	USGS
1942	1"=500'	Flight Date: May 04, 1942	USDA
1937	1"=500'	Flight Date: August 25, 1937	USDA

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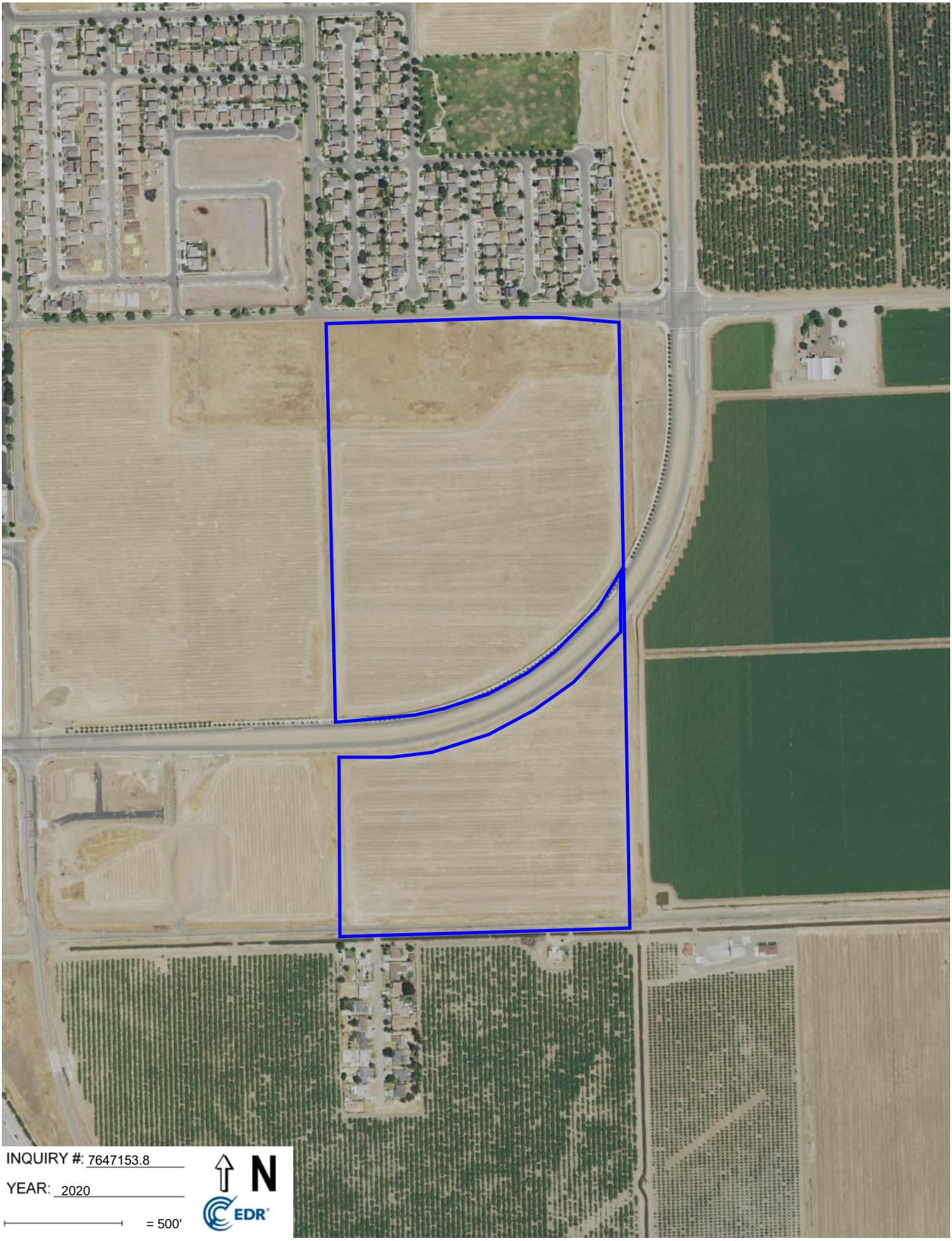
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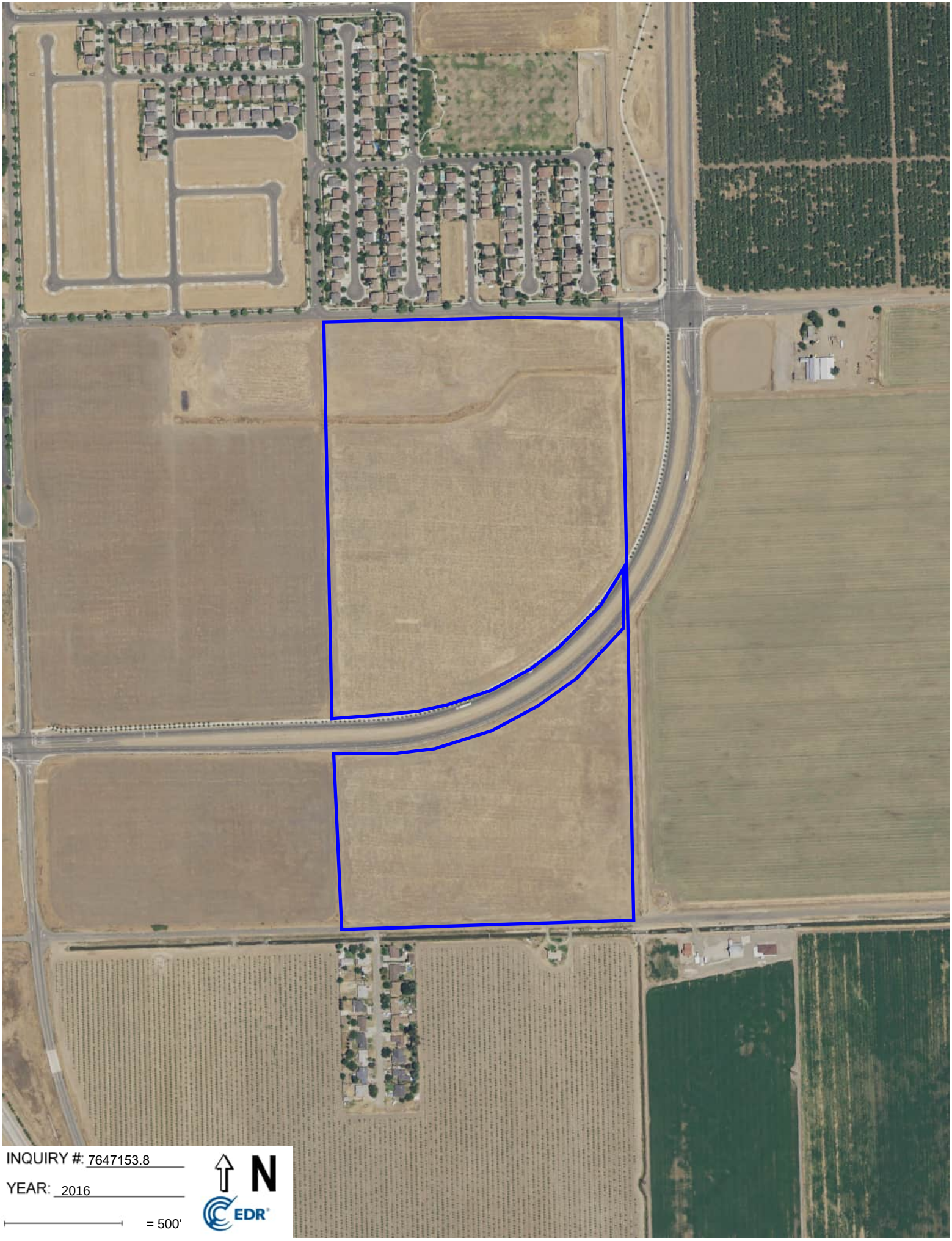
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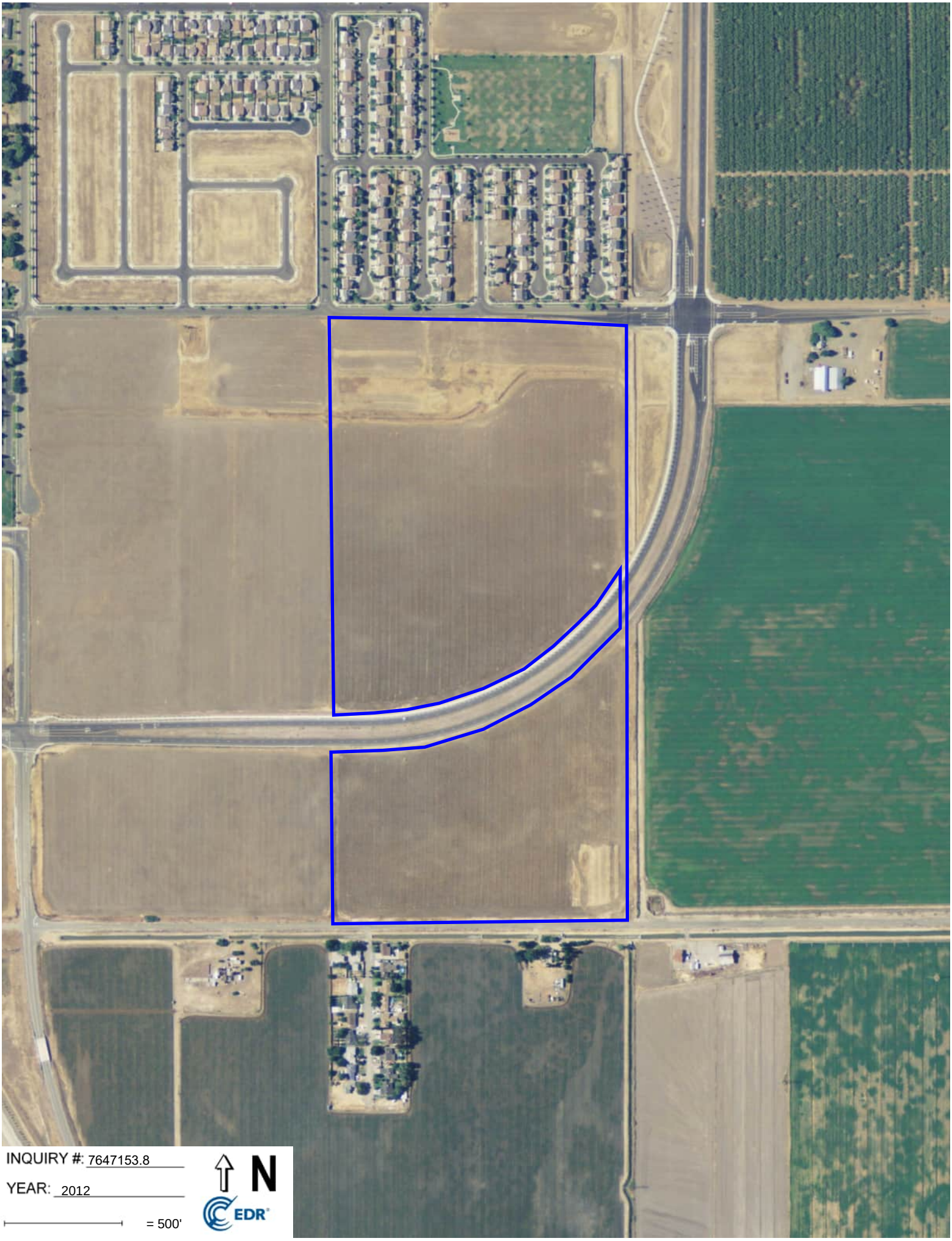
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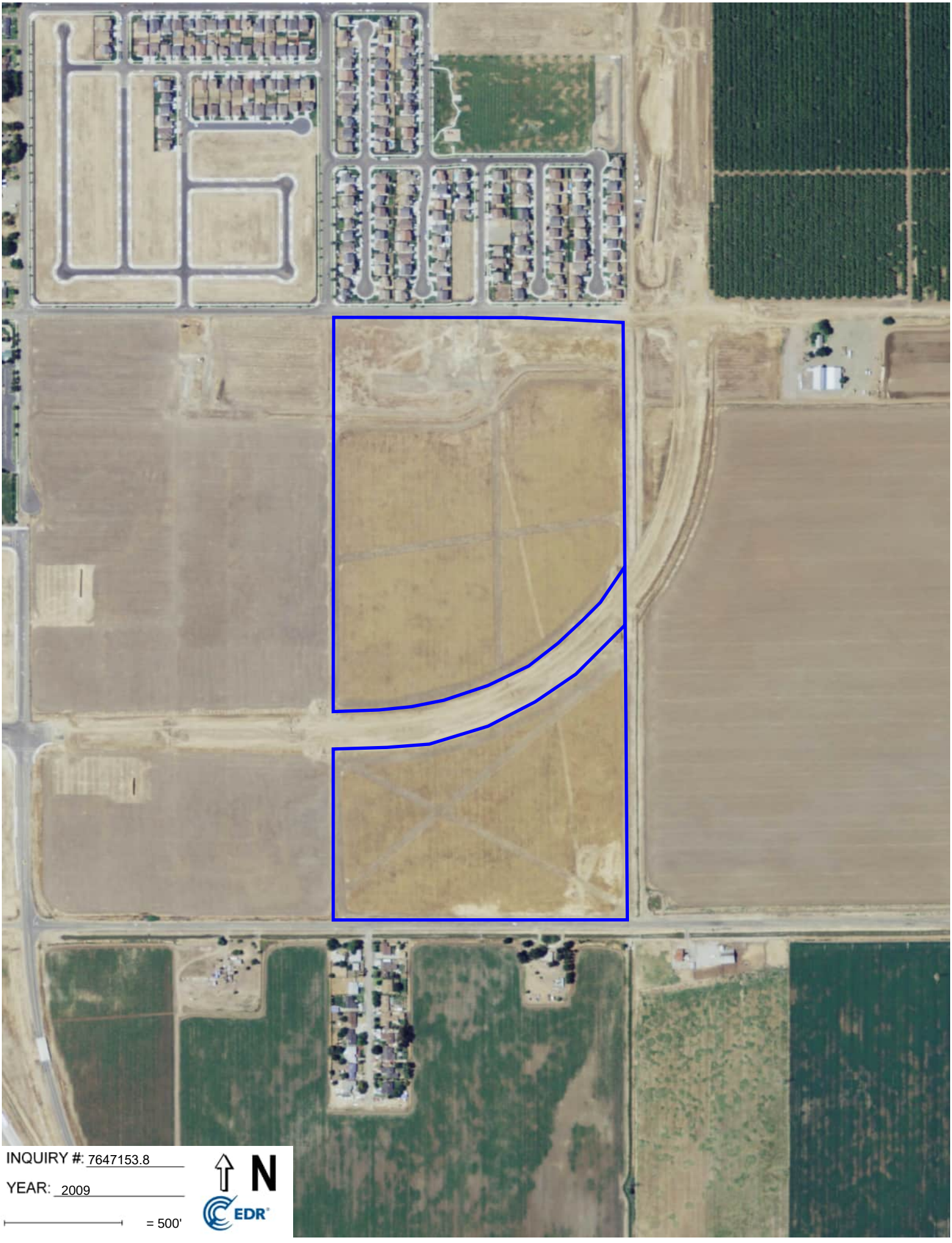
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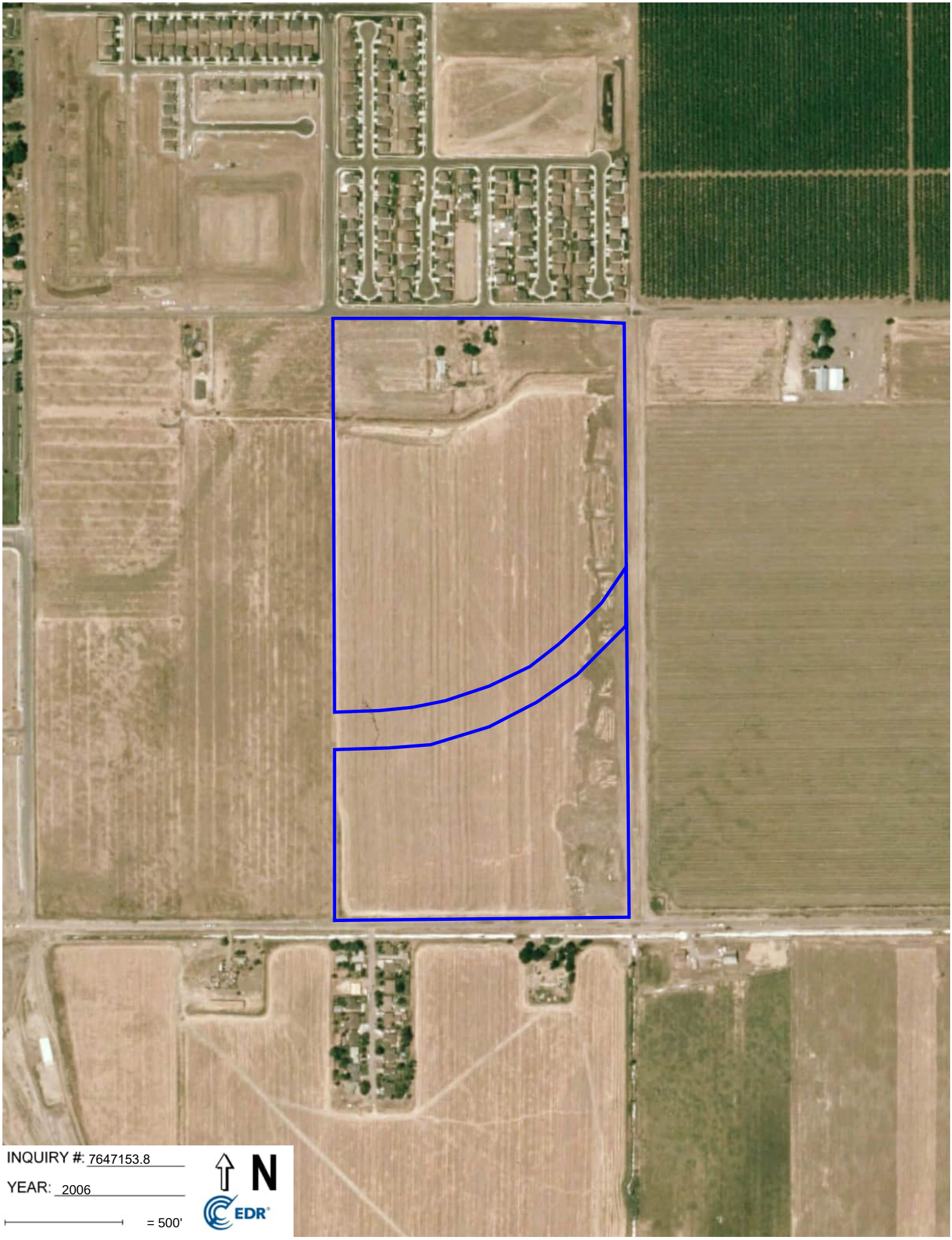
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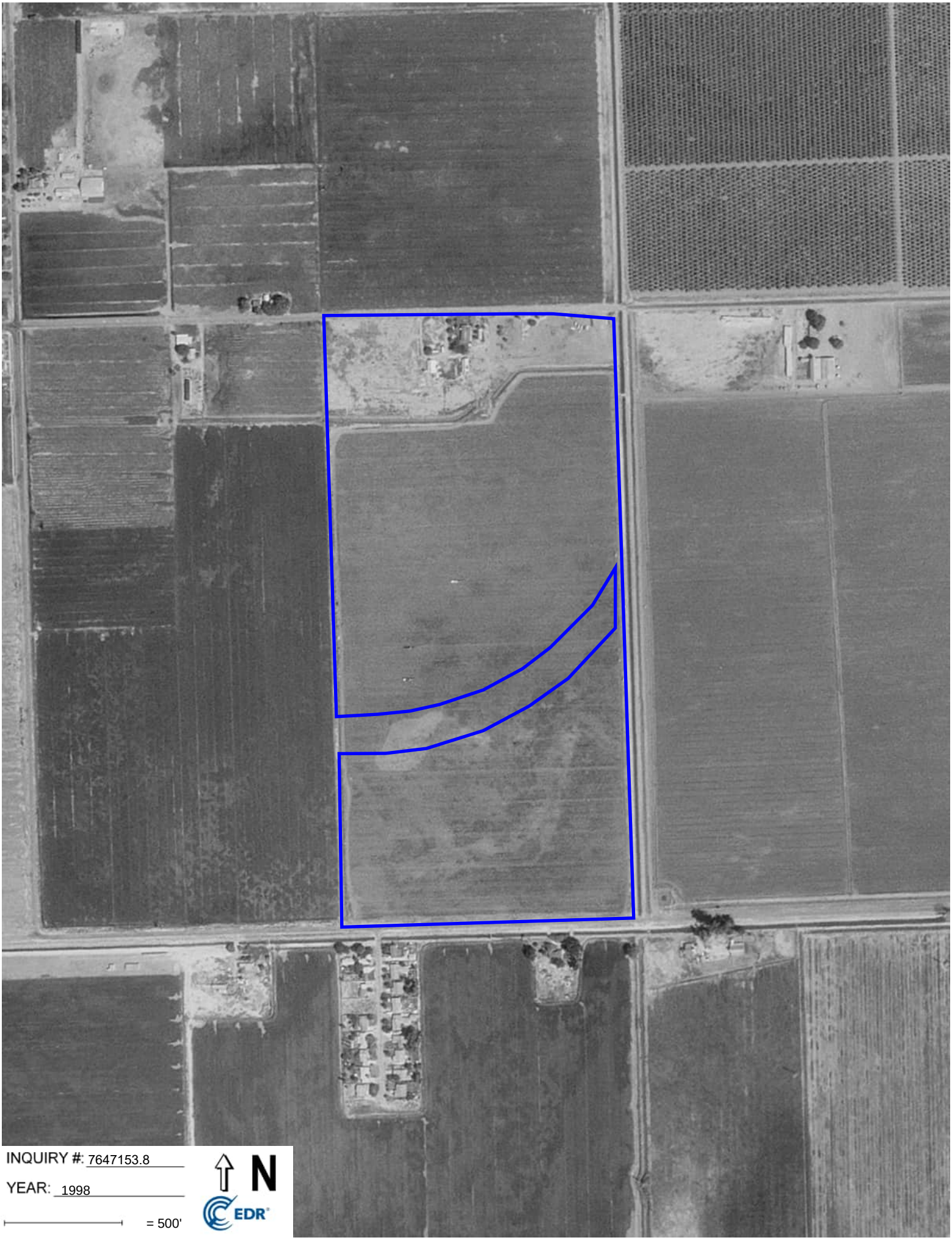
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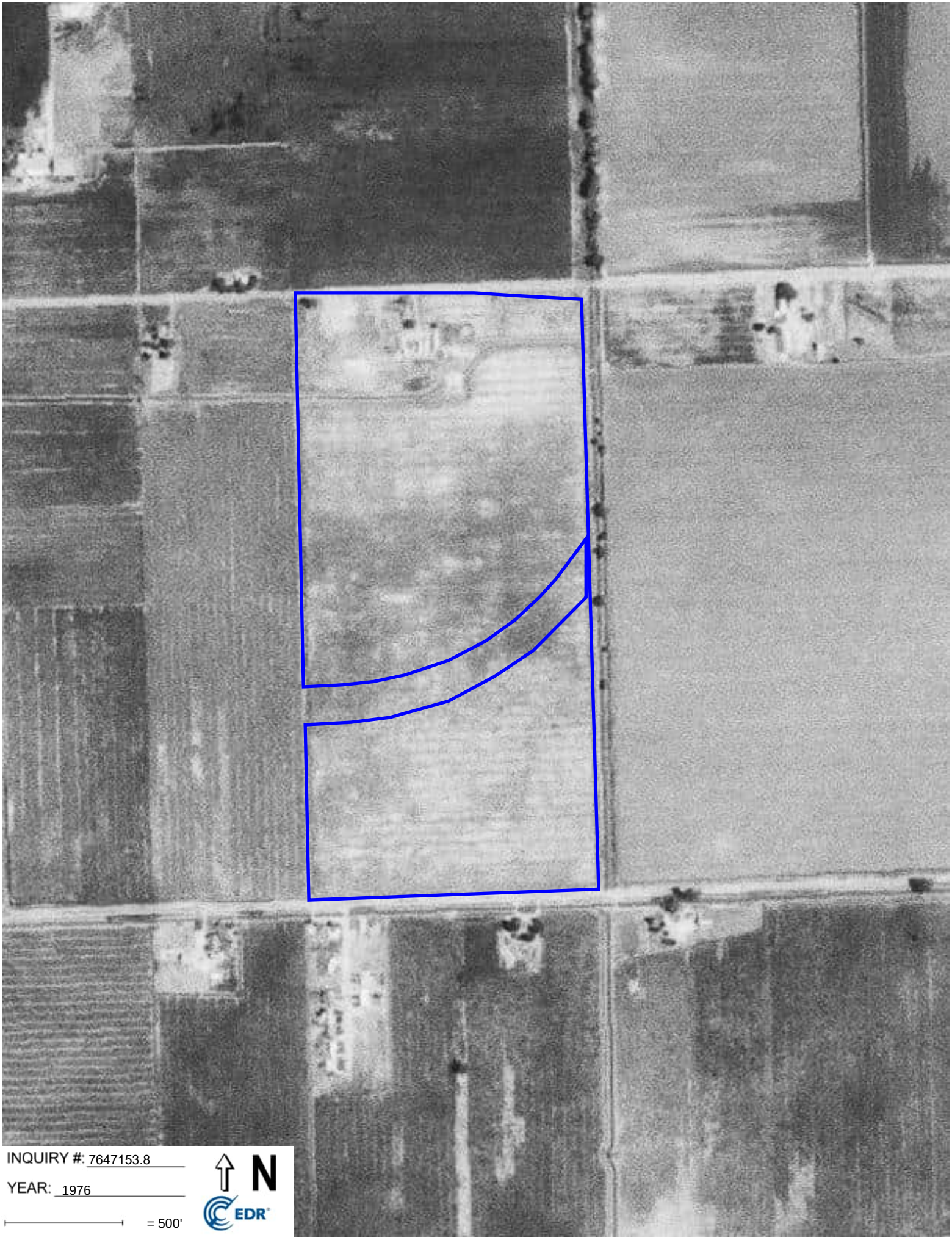
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YEAR: 1946

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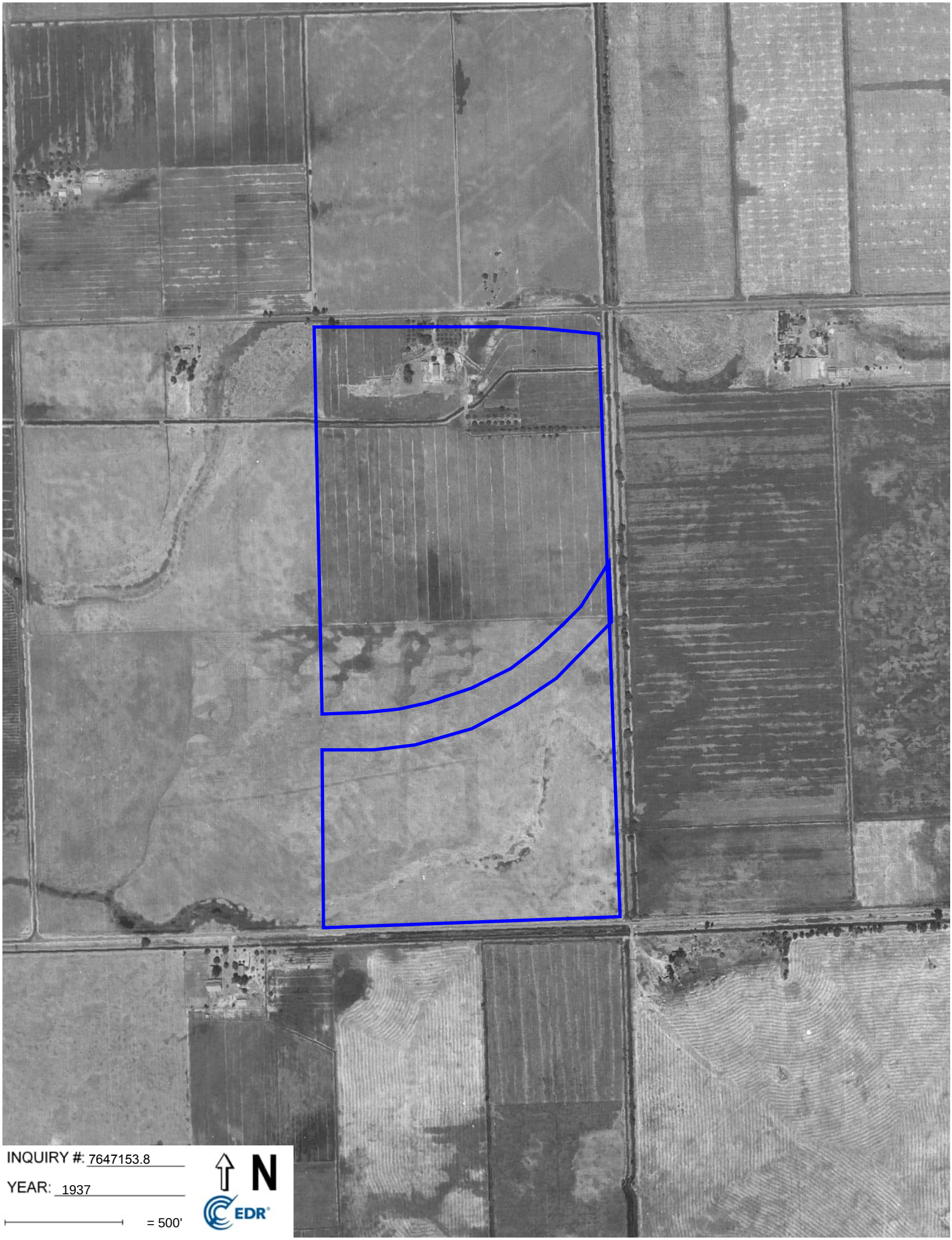
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Appendix B

WFG National Title Insurance Company
a Williston Financial Group company

Title Contact Information:
WFG National Title Insurance Company
4160 Dublin Blvd, Suite 410
Dublin, CA 94568
Phone:
E-mail: boconnell@wfgtitle.com

Title Officer: Brian O'Connell

PRELIMINARY REPORT

WFG National Title Insurance Company
4160 Dublin Blvd, Suite 410
Dublin, CA 94568
Phone: (925) 218-6350
Email: ebowens@wfgtitle.com

Escrow Officer: Evelyn Bowens

Order No.: 23-178367

Property Address:
APN: 061-250-050-000 & 061-250-094-000
Merced, CA 95340

In response to the above referenced application for a policy of title insurance, WFG National Title Insurance Company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of a defect, lien or encumbrance not shown or referred to as an exception below or not excluded from coverage pursuant to the printed Schedules, Exclusions from Coverage, and Conditions of said policy forms.

With respect to any contemplated owner's policy, the printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A, attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA/ALTA Homeowner's Policies of Title Insurance, which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a binder or commitment should be requested.

Dated as of: **April 11, 2024 at 7:30 am**

The form of policy or policies of title insurance contemplated by this report is/are:

ALTA® Extended Owner's Policy (06-17-06)

Issued by WFG National Title Insurance Company

The estate or interest in the land hereinafter described or referred to covered by this Report is:

A Fee

Title to said estate or interest at the date hereof is vested in:

Merced Gateway, LLC, a California Limited Liability Company

The land referred to in this report is situated in the State of California, County of Merced, and is described as follows:

SEE ATTACHED EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"
LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF MERCED, COUNTY OF MERCED, STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:

PARCEL ONE:

LOT 171, AS SHOWN ON THE MAP ENTITLED, "MAP OF MERCED COLONY", FILED FEBRUARY 3, 1910, IN THE OFFICE OF THE COUNTY RECORDER OF MERCED COUNTY, IN VOL. 4 OF OFFICIAL PLATS, AT PAGE 24.

EXCEPTING THEREFROM THAT PORTION DEEDED TO COUNTY OF MERCED, A BODY POLITIC AND CORPORATE ACCORDING TO THAT GRANT DEED RECORDED JULY 30, 2008, AS DOCUMENT NO. 2008-040849, OF OFFICIAL RECORDS.

ALSO EXCEPT THEREFROM ALL OIL, GAS, AND OTHER HYDROCARBONS AND MINERALS, AS RESERVED IN THE DEED FROM OSCAR B. CHANEY, ET UX, RECORDED JUNE 30, 1938, IN BOOK 578 OF OFFICIAL RECORDS, PAGE 211, MERCED COUNTY RECORDS.

PARCEL TWO:

LOTS 172, 231 AND 232, AS SHOWN ON HUMAN ENTITLED ”MAP OF MERCED COLONY", FILED FEBRUARY 3, 1910, IN THE OFFICE OF THE COUNTY RECORDER OF MERCED COUNTY, IN VOL. 4 OF MAPS, AT PAGE 24.

EXCEPTING THEREFROM THAT PORTION DEEDED TO COUNTY OF MERCED, A BODY POLITIC AND CORPORATE ACCORDING TO THAT GRANT DEED RECORDED JULY 30, 2008, AS DOCUMENT NO. 2008-040850, OF OFFICIAL RECORDS.

ALSO EXCEPTNG THEREFROM THAT PORTION DEEDED TO CITY OF MERCED, A CALIFORNIA CHARTER MUNICIPAL CORPORATION ACCORDING TO THAT GRANT DEED DATED OCTOBER 18, 2023 AND RECORDED: “TO BE RECORDED” AS INSTRUMENT NO. “TO BE RECORDED”, MERCED COUNTY RECORDEDS.

ALSO EXCEPTNG THEREFROM THE PROPERTY RIGHTS RESERVED IN DEED RECORDED JUNE 4, 1954 IN VOL. 1158 OF OFFICIAL RECORDS, PAGE 520, MERCED COUNTY RECORDS.

APN: 061-250-050 [AFFECTS PARCEL ONE]
061-250-094 [AFFECTS PARCEL TWO]

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1a. General and special taxes and assessments for the fiscal year 2024 - 2025, a lien not yet due or payable.

1b. General and Special City and/or County taxes, including any personal property taxes and any assessments collected with taxes, for the fiscal year 2023 - 2024:

1st Installment:	$12,029.71, Paid
2nd Installment:	$12,029.71, Paid
APN.:	061-250-050-000 View Taxes
Code Area:	005-148

1c. General and Special City and/or County taxes, including any personal property taxes and any assessments collected with taxes, for the fiscal year 2023 - 2024:

1st Installment:	$24,798.20, Paid
2nd Installment:	$24,798.20, Paid
APN.:	061-250-094-000 View Taxes
Code Area:	005-148

1d. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

1e. Assessments, for community facility districts, if any, affecting said land which may exist by virtue of assessment maps or notices filed by said districts.

1f. The liens of bonds and assessments liens, if applicable, collected with the general and special taxes.

2. Any and all offers of dedication, conditions, restrictions, easements, fenceline/boundary discrepancies, notes and/or provisions shown or disclosed by the filed or recorded map referred to in the legal description.

3. Rights of the public in and to that portion of the land lying within Gerard Avenue And Mission Street.

4. The right to drill a well or wells and to install there at a pumping plant or pumping plants and to operate, maintain, repair, and enlarge said well or wells and pumping plants, and to install any equipment necessary or convenient for such purposes, in or upon the herein described property.

5. County Road over the Southerly 30 feet of Lots 231 and 232, the Southerly 20 feet of said road being shown as Lot "L" upon the Map herein referred, and conveyed to the County of Merced by Deed dated December 26, 1912, and recorded in Vol. 86 of Deeds at page 196; the North 10 feet of said road being conveyed to the County of Merced, by Dead dated June 24, 1913, and recorded in Vol. 86 of Deeds, at page 208.

6. An easement for Constructing and maintaining a canal, telephone and telegraph lines, and pumping plants, with the right of ingress and egress and rights incidental thereto, as set forth in a document recorded on July 21, 1922, as Book 20, Page 282, of Official Records.

   Reference is hereby made to said document for full particulars.

7. An easement for a Right of Way for Poles and Electric Transmission Line and rights incidental thereto, as set forth in a document recorded on February 24, 1947, in Book 855, Page 343, of Official Records.

   Reference is hereby made to said document for full particulars.

8. Matters contained in that certain document entitled "Agreement" dated August 9, 1949, executed by and between 0. B. Chaney and Della J. Chaney, husband and wife as owners of Lot 172 herein described with Merced Irrigation District recorded August 19, 1949, Book 960, Page 310, of Offcial Records, which document among other things, contains or provides for: Firrst parties are given permission by second parties to install a pipe line for transportation of water under Doane lateral "B" to Lot 172 in Section 34, Township 7 South, Range 14 East.

9. The terms, conditions and provisions contained in the document entitled "Agreement for Abandonment of Water Service", recorded on March 22, 2006, as Instrument No. 2006 - 020763, Official Records.

   Reference is hereby made to said document for full particulars.

10. The terms, conditions and provisions contained in the document entitled "Agreement for Abandonment of Water Service", recorded on March 22, 2006, as Instrument No. 2006 - 20764, Official Records.

    Reference is hereby made to said document for full particulars.

11. An easement for Temporary Easement for Roadway Construction And Slope Easment and rights incidental thereto, as set forth in a document recorded on July 30, 2008, as Instrument No. 2008-040849, of Official Records.

    Reference is hereby made to said document for full particulars.

12. An easement for Temporary Easement for Roadway Construction And Slope Easment and rights incidental thereto, as set forth in a document recorded on July 30, 2008, as Instrument No. 2008 - 40850, of Official Records.

    Reference is hereby made to said document for full particulars.

13. The terms, conditions and provisions contained in the document entitled Resolution No. 2008-87, recorded on July 30, 2008, as Instrument No. 2008-040851, Official Records.

    Reference is hereby made to said document for full particulars.

14. The terms, conditions and provisions contained in the document entitled Developer Agreement, recorded on June 5, 2018, as Instrument No. 2018016922, Official Records.

    Reference is hereby made to said document for full particulars.

15. The terms, conditions and provisions contained in the document entitled Covenant Agreement, recorded on September 13, 2018, as Instrument No. 2018028468, Official Records.

    Reference is hereby made to said document for full particulars.

16. Item Intentionally Deleted

17. An easement for Right of way and Public Utility and rights incidental thereto, as set forth in a document recorded on October 31, 2023, as Instrument No.2023026063, of Official Records.

    Reference is hereby made to said document for full particulars.

18. An easement for Utility and rights incidental thereto, as set forth in a document recorded on December 20, 2023, as Instrument No. 2023031772, of Official Records.

    Reference is hereby made to said document for full particulars.

19. Please be advised that our search did not disclose any open deeds of trust of record. Please see the attached Affidavit of no mortgage or deed of trust to be executed and returned prior to closing. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

20. Rights or claims of parties in possession.

21. Any rights of the parties in possession of said land, based on an unrecorded lease, or leases.

    This Company will require that a full copy of any unrecorded lease be submitted to us, together with all supplements, assignments and amendments, before issuing any policy of title insurance.

22. The transaction contemplated in connection with this report is subject to the review and approval of the Company's Corporate Underwriting Department. The Company reserves the right to add additional items or make further requirements after such review.

END OF EXCEPTIONS

REQUIREMENTS

Req. No. 1. Statements of information from all parties to the transaction are NOT required.

Req. No. 2. With respect to Merced Gateway, LLC, a California limited liability company:

a. A copy of its operating agreement and any amendments thereto;
b. If it is a California limited liability company, that a certified copy of its articles of organization (LLC-1) and any certificate of correction (LLC-11), certificate of amendment (LLC-2), or restatement of articles of organization (LLC-10) be recorded in the public records;
c. If it is a foreign limited liability company, that a certified copy of its application for registration (LLC-5) be recorded in the public records;
d. With respect to any deed, deed of trust, lease, subordination agreement or other document or instrument executed by such limited liability company and presented for recordation by the Company or upon which the Company is asked to rely, that such document or instrument be executed in accordance with one of the following, as appropriate:
   (i) If the limited liability company properly operates through officers appointed or elected pursuant to the terms of a written operating agreement, such document must be executed by at least two duly elected or appointed officers, as follows: the chairman of the board, the president or any vice president, and any secretary, assistant secretary, the chief financial officer or any assistant treasurer;
   (ii) If the limited liability company properly operates through a manager or managers identified in the articles of organization and/or duly elected pursuant to the terms of a written operating agreement, such document must be executed by at least two such managers or by one manager if the limited liability company properly operates with the existence of only one manager.
e. Other requirements which the Company may impose following its review of the material required herein and other information which the Company may require.

Req. No. 3. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment.

This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction.

The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

NOTES

This report does not reflect requests for notice of default, requests for notice of delinquency, subsequent transfers of easements, and similar matters not germane to the issuance of the policy of title insurance anticipated hereunder.

Note 1: If this company is requested to disburse funds in connection with this transaction, Chapter 598 of 1989 Mandates of the California Insurance Code requires hold periods for checks deposited to escrow or sub-escrow accounts. Such periods vary depending upon the type of check and anticipated methods of deposit should be discussed with the escrow officer.

Note 2: No endorsement issued in connection with the policy and relating to covenants, conditions or restrictions provides coverage for environmental protection.

Note 3: Special recordings: Due to a severe budget shortfall, many county recorders have announced that severe limitations will be placed on the acceptance of "special recordings."

Note 4: Homeowners association: if the property herein described is subject to membership in a homeowners association, it will become necessary that we be furnished a written statement from the said homeowners association of which said property is a member, which provides that all liens, charges and/or assessments levied on said land have been paid. Said statement should provide clearance up to and including the time of closing. In order to avoid unnecessary delays at the time of closing, we ask that you obtain and forward said statement at your earliest convenience.

Note 5: Demands: This Company requires that all beneficiary demands be current at the time of closing. If the demand has expired and a current demand cannot be obtained it may be necessary to hold money whether payoff is made based on verbal figures or an expired demand.

Note 6: Line of credit payoffs: If any deed of trust herein secures a line of credit, we will require that the account be frozen and closed and no additional advances be made to the borrower. If the beneficiary is unwilling to freeze the account, we will require you submit to us all unused checks, debit vouchers, and/or credit cards associated with the loan along with a letter (affidavit) signed by the trustor stating that no additional advances will be made under the credit line. If neither of the above is possible, it will be necessary to hold any difference between the demand balance and the maximum available credit.

Note 7: Maps: The map attached hereto may or may not be a survey of the land depicted thereon. You should not rely upon it for any purpose other than orientation to the general location of the parcel or parcels depicted. WFG National Title Company of California expressly disclaims any liability for alleged loss or damages which may result from reliance upon this map.

Note 8: In the event of cancellation or if the transaction has not closed within 90 days from the date hereof, the rate imposed and collectable shall be a minimum of $360.00, pursuant to Section 12404 of the Insurance code, unless other provisions are made.

Note 9: A Preliminary Change of Ownership Report (PCOR) must be filed with each conveyance in the County Recorder’s office for the county where the property is located. If a document evidencing a change in ownership is presented to the Recorder for recordation without the concurrent filing of a PCOR, the Recorder may charge an additional recording fee of twenty dollars ($20). State law also provides for a penalty of be levied if the Change of Ownership Report is not returned to the Assessor within a timely filing period. The penalty for failure to file a Change in Ownership Statement is $100 or 10% of the new tax bill, whichever is greater, but not to exceed $2,500.

Note 10: As to any and all covenants and restrictions set forth herein, the following is added: “but omitting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, sexual orientation, familial status, disability, handicap, national origin, genetic information, gender, gender identity, gender expression, marital status, source of income (as defined in subdivision (p) of Section 12955), or ancestry, that restriction violates state and federal fair housing laws and is void, and may be removed pursuant to Section 12956.2 of the Government Code, to the extent such covenants, conditions or restrictions violate Title 42, Section 3604(c), of the United States Codes or Section 12955 of the California Government Code. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.”

Note 11: Due to current conflicts or potential conflicts between state and federal law, which conflicts may extend to local law, regarding marijuana, if the transaction to be insured involves property which is currently used or is to be used in connection with a marijuana enterprise, including but not limited to the cultivation, storage, distribution, transport, manufacture, or sale of marijuana and/or products containing marijuana, the Company declines to close or insure the transaction, and this Preliminary Title Report shall automatically be considered null and void and of no force and effect.

Note 12: This report is preparatory to the issuance of an ALTA Loan Policy. We have no knowledge of any fact which would preclude the issuance of the policy with CLTA Endorsement forms 100, 116 or 116.01 and if applicable, 115 and 116.02 attached.

When issued, the CLTA endorsement form 116, 116.01 or 116.02, if applicable will reference **Commercial/Industrial**

known as
APN: 061-250-050-000 & 061-250-094-000, City of Merced, County of Merced, California

Note 13: The only conveyances affecting said land which recorded within twenty-four (24) months of the date of this report are:

None of Record

Exhibit One (Rev. 02-04-22)

CLTA STANDARD COVERAGE POLICY—1990 (4-8-14)
EXCLUSIONS FROM COVERAGE

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE LOAN POLICY [(02-04-22) v. 01.00]

EXCLUSIONS FROM COVERAGE

The following matters are excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) that restricts, regulates, prohibits, or relates to:
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement on the Land;
   iii. the subdivision of land; or
   iv. environmental remediation or protection.
   b. any governmental forfeiture, police, regulatory, or national security power.
   c. the effect of a violation or enforcement of any matter excluded under Exclusion 1.a. or 1.b.
   Exclusion 1 does not modify or limit the coverage provided under Covered Risk 5 or 6.

2. Any power of eminent domain. Exclusion 2 does not modify or limit the coverage provided under Covered Risk 7.

3. Any defect, lien, encumbrance, adverse claim, or other matter:
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at the Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to the Date of Policy (Exclusion 3.d. does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if consideration sufficient to qualify the Insured named in Schedule A as a bona fide purchaser or encumbrancer had been given for the Insured Mortgage at the Date of Policy.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business law.

5. Invalidity or unenforceability of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury law or Consumer Protection Law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that the transaction creating the lien of the Insured Mortgage is a:
   a. fraudulent conveyance or fraudulent transfer;
   b. voidable transfer under the Uniform Voidable Transactions Act; or
   c. preferential transfer:
      i. to the extent the Insured Mortgage is not a transfer made as a contemporaneous exchange for new value; or
      ii. for any other reason not stated in Covered Risk 13.b.

7. Any claim of a PACA-PSA Trust. Exclusion 7 does not modify or limit the coverage provided under Covered Risk 8.

8. Any lien on the Title for real estate taxes or assessments imposed by a governmental authority and created or attaching between the Date of Policy and the date of recording of the Insured Mortgage in the Public Records. Exclusion 8 does not modify or limit the coverage provided under Covered Risk 2.b. or 11.b.

9. Any discrepancy in the quantity of the area, square footage, or acreage of the Land or of any improvement to the Land.

EXCEPTIONS FROM COVERAGE

Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This policy treats any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document are excepted from coverage.

This policy does not insure against loss or damage and the Company will not pay costs, attorneys' fees, or expenses resulting from the terms and conditions of any lease or easement identified in Schedule A, and the following matters:

PART IA

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records at Date of Policy but that could be (a) ascertained by an inspection of the Land, or (b) asserted by persons or parties in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records at Date of Policy.

4. Any encroachment, encumbrance, violation, variation, easement, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records at Date of Policy.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor, material or equipment unless such lien is shown by the Public Records at Date of Policy.

7. Any claim to (a) ownership of or rights to minerals and similar substances, including but not limited to ores, metals, coal, lignite, oil, gas, uranium, clay, rock, sand, and gravel located in, on, or under the Land or produced from the Land, whether such ownership or rights arise by lease, grant, exception, conveyance, reservation, or otherwise; and (b) any rights, privileges, immunities, rights of way, and easements associated therewith or appurtenant thereto, whether or not the interests or rights excepted in (a) or (b) appear in the Public Records or are shown in Schedule B.

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE OWNER'S POLICY [(02-04-22) v. 01.00]

EXCLUSIONS FROM COVERAGE

The following matters are excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) that restricts, regulates, prohibits, or relates to:
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement on the Land;

iii. the subdivision of land; or
iv. environmental remediation or protection.

b. any governmental forfeiture, police, regulatory, or national security power.
c. the effect of a violation or enforcement of any matter excluded under Exclusion 1.a. or 1.b.

Exclusion 1 does not modify or limit the coverage provided under Covered Risk 5 or 6.

2. Any power of eminent domain. Exclusion 2 does not modify or limit the coverage provided under Covered Risk 7.

3. Any defect, lien, encumbrance, adverse claim, or other matter:
a. created, suffered, assumed, or agreed to by the Insured Claimant;
b. not Known to the Company, not recorded in the Public Records at the Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
c. resulting in no loss or damage to the Insured Claimant;
d. attaching or created subsequent to the Date of Policy (Exclusion 3.d. does not modify or limit the coverage provided under Covered Risk 9 or 10); or
e. resulting in loss or damage that would not have been sustained if consideration sufficient to qualify the Insured named in Schedule A as a bona fide purchaser had been given for the Title at the Date of Policy.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that the transaction vesting the Title as shown in Schedule A is a:
a. fraudulent conveyance or fraudulent transfer;
b. voidable transfer under the Uniform Voidable Transactions Act; or
c. preferential transfer:
i. to the extent the instrument of transfer vesting the Title as shown in Schedule A is not a transfer made as a contemporaneous exchange for new value; or
ii. for any other reason not stated in Covered Risk 9.b.

5. Any claim of a PACA-PSA Trust. Exclusion 5 does not modify or limit the coverage provided under Covered Risk 8.

6. Any lien on the Title for real estate taxes or assessments imposed or collected by a governmental authority that becomes due and payable after the Date of Policy. Exclusion 6 does not modify or limit the coverage provided under Covered Risk 2.b.

7. Any discrepancy in the quantity of the area, square footage, or acreage of the Land or of any improvement to the Land.

EXCEPTIONS FROM COVERAGE

Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This policy treats any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document are excepted from coverage.

This policy does not insure against loss or damage and the Company will not pay costs, attorneys' fees, or expenses resulting from the terms and conditions of any lease or easement identified in Schedule A, and the following matters:

PART I

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records at Date of Policy but that could be (a) ascertained by an inspection of the Land, or (b) asserted by persons or parties in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records at Date of Policy.

4. Any encroachment, encumbrance, violation, variation, easement, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records at Date of Policy.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor, material or equipment unless such lien is shown by the Public Records at Date of Policy.

7. Any claim to (a) ownership of or rights to minerals and similar substances, including but not limited to ores, metals, coal, lignite, oil, gas, uranium, clay, rock, sand, and gravel located in, on, or under the Land or produced from the Land, whether such ownership or rights arise by lease, grant, exception, conveyance, reservation, or otherwise; and (b) any rights, privileges, immunities, rights of way, and easements associated therewith or appurtenant thereto, whether or not the interests or rights excepted in (a) or (b) appear in the Public Records or are shown in Schedule B.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE [(07-01-2021) V. 01.00]
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS FROM COVERAGE

The following matters are excluded from the coverage of this policy and We will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) that restricts, regulates, prohibits, or relates to:
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement on the Land;
   iii. the subdivision of land; or
   iv. environmental remediation or protection.
   b. any governmental forfeiture, police, or regulatory, or national security power.
   c. the effect of a violation or enforcement of any matter excluded under Exclusion 1.a. or 1.b.
   Exclusion 1 does not modify or limit the coverage provided under Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23, or 27.

2. Any power to take the Land by condemnation. Exclusion 2 does not modify or limit the coverage provided under Covered Risk 17.

3. Any defect, lien, encumbrance, adverse claim, or other matter:
   a. created, suffered, assumed, or agreed to by You;
   b. not Known to Us, not recorded in the Public Records at the Date of Policy, but Known to You and not disclosed in writing to Us by You prior to the date You became an Insured under this policy;
   c. resulting in no loss or damage to You;
   d. attaching or created subsequent to the Date of Policy (Exclusion 3.d. does not modify or limit the coverage provided under Covered Risk 5, 8.f., 25, 26, 27, 28, or 32); or
   e. resulting in loss or damage that would not have been sustained if You paid consideration sufficient to qualify You as a bona fide purchaser of the Title at the Date of Policy.
4. Lack of a right:
   a. to any land outside the area specifically described and referred to in Item 3 of Schedule A; and
   b. in any street, road, avenue, alley, lane, right-of-way, body of water, or waterway that abut the Land.
   Exclusion 4 does not modify or limit the coverage provided under Covered Risk 11 or 21.

5. The failure of Your existing structures, or any portion of Your existing structures, to have been constructed before, on, or after the Date of Policy in accordance with applicable building codes. Exclusion 5 does not modify or limit the coverage provided under Covered Risk 14 or 15.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that the transfer of the Title to You is a:
   a. fraudulent conveyance or fraudulent transfer;
   b. voidable transfer under the Uniform Voidable Transactions Act; or
   c. preferential transfer:
      i. to the extent the instrument of transfer vesting the Title as shown in Schedule A is not a transfer made as a contemporaneous exchange for new value; or
      ii. for any other reason not stated in Covered Risk 30.

7. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.

8. Negligence by a person or an entity exercising a right to extract or develop oil, gas, minerals, groundwater, or any other subsurface substance.

9. Any lien on Your Title for real estate taxes or assessments imposed or collected by a governmental authority that becomes due and payable after the Date of Policy. Exclusion 9 does not modify or limit the coverage provided under Covered Risk 8.a. or 27.

10. Any discrepancy in the quantity of the area, square footage, or acreage of the Land or of any improvement to the Land.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$5,000.00

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;

c. land use;
d. improvements on the Land;
e. land division; and
f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:

a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:

a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
b. in streets, alleys, or waterways that touch the Land.
This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.

8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.

9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$5,000.00

ALTA Loan Policy [(07-01-2021) v. 01.00]

EXCLUSIONS FROM COVERAGE

The following matters are excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) that restricts, regulates, prohibits, or relates to:
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement on the Land;
   iii. the subdivision of land; or
   iv. environmental remediation or protection.
   b. any governmental forfeiture, police, regulatory, or national security power.
   c. the effect of a violation or enforcement of any matter excluded under Exclusion 1.a. or 1.b.
   Exclusion 1 does not modify or limit the coverage provided under Covered Risk 5 or 6.

2. Any power of eminent domain. Exclusion 2 does not modify or limit the coverage provided under Covered Risk 7.

3. Any defect, lien, encumbrance, adverse claim, or other matter:
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at the Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to the Date of Policy (Exclusion 3.d. does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if consideration sufficient to qualify the Insured named in Schedule A as a bona fide purchaser or encumbrancer had been given for the Insured Mortgage at the Date of Policy.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business law.

5. Invalidity or unenforceability of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury law or Consumer Protection Law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that the transaction creating the lien of the Insured Mortgage is a:
   a. fraudulent conveyance or fraudulent transfer;
   b. voidable transfer under the Uniform Voidable Transactions Act; or
   c. preferential transfer:
      i. to the extent the Insured Mortgage is not a transfer made as a contemporaneous exchange for new value; or
      ii. for any other reason not stated in Covered Risk 13.b.

7. Any claim of a PACA-PSA Trust. Exclusion 7 does not modify or limit the coverage provided under Covered Risk 8.

8. Any lien on the Title for real estate taxes or assessments imposed by a governmental authority and created or attaching between the Date of Policy and the date of recording of the Insured Mortgage in the Public Records. Exclusion 8 does not modify or limit the coverage provided under Covered Risk 2.b. or 11.b.

9. Any discrepancy in the quantity of the area, square footage, or acreage of the Land or of any improvement to the Land.

NOTE: The 2021 ALTA Loan Policy may be issued to afford either Standard Coverage or Extended Coverage. In addition to variable exceptions such as taxes, easements, CC&R's, etc., the Exceptions from Coverage in a Standard Coverage policy will also include the Western Regional Standard Coverage Exceptions listed below as numbers 1 through 6.

EXCEPTIONS FROM COVERAGE

Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This policy treats any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document are excepted from coverage.

This policy does not insure against loss or damage and the Company will not pay costs, attorneys' fees, or expenses resulting from the terms and conditions of any lease or easement identified in Schedule A, and the following matters:

PART I

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor or material unless such lien is shown by the Public Records at Date of Policy.]

[7.] Variable exceptions such as taxes, easements, CC&R's, etc., shown here.

PART II

Covered Risk 10 insures against loss or damage sustained by the Insured by reason of the lack of priority of the lien of the Insured Mortgage over the matters listed in Part II, subject to the terms and conditions of any subordination provision in a matter listed in Part II:

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters

   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is

   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

NOTE: The 2006 ALTA Loan Policy may be issued to afford either Standard Coverage or Extended Coverage. In addition to variable exceptions such as taxes, easements, CC&R's, etc., the Exceptions from Coverage in a Standard Coverage policy will also include the Western Regional Standard Coverage Exceptions listed below as numbers 1 through 6.

EXCEPTIONS FROM COVERAGE

Except as provided in Schedule B - Part II, this policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

PART I

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor or material unless such lien is shown by the Public Records at Date of Policy.]

[7.] Variable exceptions such as taxes, easements, CC&R's, etc., shown here.

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:

ALTA Owner's Policy [(07-01-2021) v. 01.00]

EXCLUSIONS FROM COVERAGE

The following matters are excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) that restricts, regulates, prohibits, or relates to:
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement on the Land;
   iii. the subdivision of land; or
   iv. environmental remediation or protection.
   b. any governmental forfeiture, police, regulatory, or national security power.
   c. the effect of a violation or enforcement of any matter excluded under Exclusion 1.a. or 1.b.
   Exclusion 1 does not modify or limit the coverage provided under Covered Risk 5 or 6.

2. Any power of eminent domain. Exclusion 2 does not modify or limit the coverage provided under Covered Risk 7.

3. Any defect, lien, encumbrance, adverse claim, or other matter:
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at the Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to the Date of Policy (Exclusion 3.d. does not modify or limit the coverage provided under Covered Risk 9 or 10); or
   e. resulting in loss or damage that would not have been sustained if consideration sufficient to qualify the Insured named in Schedule A as a bona fide purchaser had been given for the Title at the Date of Policy.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that the transaction vesting the Title as shown in Schedule A is a:
   a. fraudulent conveyance or fraudulent transfer;
   b. voidable transfer under the Uniform Voidable Transactions Act; or
   c. preferential transfer:
      i. to the extent the instrument of transfer vesting the Title as shown in Schedule A is not a transfer made as a contemporaneous exchange for new value; or
      ii. for any other reason not stated in Covered Risk 9.b.

5. Any claim of a PACA-PSA Trust. Exclusion 5 does not modify or limit the coverage provided under Covered Risk 8.

6. Any lien on the Title for real estate taxes or assessments imposed or collected by a governmental authority that becomes due and payable after the Date of Policy. Exclusion 6 does not modify or limit the coverage provided under Covered Risk 2.b.

7. Any discrepancy in the quantity of the area, square footage, or acreage of the Land or of any improvement to the Land.

NOTE: The 2021 ALTA Owner's Policy may be issued to afford either Standard Coverage or Extended Coverage. In addition to variable exceptions such as taxes, easements, CC&R's, etc., the Exceptions from Coverage in a Standard Coverage policy will also include the Western Regional Standard Coverage Exceptions listed below as numbers 1 through 6

EXCEPTIONS FROM COVERAGE

Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This policy treats any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document are excepted from coverage.

This policy does not insure against loss or damage and the Company will not pay costs, attorneys' fees, or expenses resulting from the terms and conditions of any lease or easement identified in Schedule A, and the following matters:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor or material unless such lien is shown by the Public Records at Date of Policy.]

[7.] Variable exceptions such as taxes, easements, CC&R's, etc., shown here.

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   (i) the occupancy, use, or enjoyment of the Land;

   (ii) the character, dimensions, or location of any improvement erected on the Land;

(iii) the subdivision of land; or

(iv) environmental protection;

or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

(b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters

(a) created, suffered, assumed, or agreed to by the Insured Claimant;

(b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

(c) resulting in no loss or damage to the Insured Claimant;

(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or

(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is

(a) a fraudulent conveyance or fraudulent transfer; or

(b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

NOTE: The 2006 ALTA Owner's Policy may be issued to afford either Standard Coverage or Extended Coverage. In addition to variable exceptions such as taxes, easements, CC&R's, etc., the Exceptions from Coverage in a Standard Coverage policy will also include the Western Regional Standard Coverage Exceptions listed below as numbers 1 through 6

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor or material unless such lien is shown by the Public Records at Date of Policy.]

[7.] Variable exceptions such as taxes, easements, CC&R's, etc., shown here.

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY OF TITLE INSURANCE—ASSESSMENTS PRIORITY
[2021 01.00 (07-01-2021)]

EXCLUSIONS FROM COVERAGE

The following matters are excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) that restricts, regulates, prohibits, or relates to:
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement on the Land;
   iii. the subdivision of land; or
   iv. environmental remediation or protection.
   b. any governmental forfeiture, police, regulatory, or national security power.
   c. the effect of a violation or enforcement of any matter excluded under Exclusion 1.a. or 1.b.
   Exclusion 1.b. does not modify or limit the coverage provided under Covered Risk 5, 6, 12.c., 12.d., 13, or 15.

2. Any power of eminent domain. Exclusion 2 does not modify or limit the coverage provided under Covered Risk 7.

3. Any defect, lien, encumbrance, adverse claim, or other matter:
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at the Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to the Date of Policy (Exclusion 3.d. does not modify or limit the coverage provided under Covered Risk 10, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, and 27); or
   e. resulting in loss or damage that would not have been sustained if consideration sufficient to qualify the Insured named in Schedule A as a bona fide purchaser or encumbrancer had been given for the Insured Mortgage at the Date of Policy.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business law.

5. Invalidity or unenforceability of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury law or Consumer Protection Law. Exclusion 5 does not modify or limit the coverage provided in Covered Risk 25.

6. Any claim of invalidity, unenforceability, or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the Title. Exclusion 6 does not modify or limit the coverage provided under Covered Risk 10.

7. The failure of the residential structure, or any portion of it, to have been constructed before, on, or after the Date of Policy in accordance with applicable building codes. Exclusion 7 does not modify or limit the coverage provided in Covered Risk 5 or 6.

8. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights law, that the transaction creating the lien of the Insured Mortgage is a:
   a. fraudulent conveyance or fraudulent transfer;
   b. voidable transfer under the Uniform Voidable Transactions Act; or
   c. preferential transfer:
      i. to the extent the Insured Mortgage is not a transfer made as a contemporaneous exchange for new value; or
      ii. for any other reason not stated in Covered Risk 26.b.

9. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.

10. Negligence by a person or an Entity exercising a right to extract or develop oil, gas, minerals, groundwater, or any other subsurface substance.

11. Any lien on the Title for real estate taxes or assessments imposed by a governmental authority and created or attaching between the Date of Policy and the date of recording of the Insured Mortgage in the Public Records. Exclusion 11 does not modify or limit the coverage provided under Covered Risk 10.b. or 24.

12. Any discrepancy in the quantity of the area, square footage, or acreage of the Land or of any improvement to the Land.

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   (i) the occupancy, use, or enjoyment of the Land;

   (ii) the character, dimensions, or location of any improvement erected on the Land;

   (iii) the subdivision of land; or

   (iv) environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters

   (a) created, suffered, assumed, or agreed to by the Insured Claimant;

   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

   (c) resulting in no loss or damage to the Insured Claimant;

   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or

   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for

the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is

   (a) a fraudulent conveyance or fraudulent transfer, or

   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

WFG National Title Company
a Williston Financial Group company

Disclosure to Consumer of Available Discounts
Pursuant to California Code of Regulations Section 2355.3

In compliance with Section 2355.3 of the California Code of Regulations, if the current transaction involves an improved, one-to-four family, residential dwelling, the proposed insured may be entitled to certain cost reductions and/or discounts in their title insurance premiums and/or settlement service charges, pursuant to the programs listed below, and as further described in the Company's current Schedule of Rates and Rules for the State of California, currently on file with the California Department of Insurance. The reductions and/or discounts available are:

Group Title Discount Program
Investor Rates
Combined Title and Escrow Services
First Time Buyer(s)
Senior Citizen Rate
U.S. Military Rate
Disaster Loan
Refinance Lender Special Rates I, 2, 3
Limited Escrow Rates
Home Equity Escrow Rate
Consumer Direct Rates

Application of the Reductions and/or Discounts listed above shall be governed by the rules and requirements set forth in the Schedule of Rates and Rules on file in the office of the California Insurance Commissioner. Multiple programs may or may not be applied. Pursuant to the above referenced California Code of Regulations Section, neither provision nor acceptance of this form shall constitute a waiver of the consumer's right to be charged the filed rate.

With the receipt of the Preliminary Report to which this Disclosure Form is attached, the proposed insured acknowledges that they have been notified that they may be entitled to certain cost reductions and/or discounts, as listed above and as more particularly described in the Company's Schedule of Rates and Rules, currently on file in the office of the Insurance Commissioner of the State of California.

Revised 8.1.23

STATEMENT OF INFORMATION

CONFIDENTIAL - TO BE USED ONLY IN CONNECTION WITH ORDER NO: 23-178367, ESCROW NO.: 23-178367AND PROPERTY ADDRESS: XXXX APN: 061-250-050-000 & 061-250-094-000, MERCED, CA 95340

1. IMPROVEMENTS: ☐ NONE/VACANT LAND ☐ SINGLE RESIDENCE ☐ MULTIPLE RESIDENCE ☐ COMMERICAL
2. OCCUPIED BY: ☐ OWNER ☐ TENANTS
3. CONSTRUCTION WITHIN LAST 6 MONTHS? ☐ YES ☐ NO
IF YES, INDICATE WORK DONE: _____

PARTY 1	**PARTY 2**
FIRST MIDDLE ☐ NONE LAST	FIRST MIDDLE ☐ NONE LAST
FORMER LAST NAME(S), IF ANY	FORMER LAST NAME(S), IF ANY
BIRTHPLACE / BIRTH DATE	BIRTHPLACE / BIRTH DATE
SOCIAL SECURITY NUMBER / DRIVER'S LICENSE	SOCIAL SECURITY NUMBER / DRIVER'S LICENSE
NAME OF FORMER SPOUSE/REGISTERED DOMESTIC PARTNER	NAME OF FORMER SPOUSE/REGISTERED DOMESTIC PARTNER

MARRIAGE

☐ SINGLE ☐ MARRIED ☐ UNMARRIED DATE OF MARRIAGE/DIVORCE: _____

PARTY 1

RESIDENCES FOR LAST 10 YEARS

ADDRESS	CITY	STATE	FROM (DATE) TO (DATE)

OCCUPATIONS FOR LAST 10 YEARS

OCCUPATION	FIRM NAME	ADDRESS	NUMBER OF YEARS

PARTY 2

RESIDENCES FOR LAST 10 YEARS

ADDRESS	CITY	STATE	FROM (DATE) TO (DATE)

OCCUPATIONS FOR LAST 10 YEARS

OCCUPATION	FIRM NAME	ADDRESS	NUMBER OF YEARS

THE UNDERSIGNED DECLARE, UNDER PENALTY OF PERJURY, THAT THE FOREGOING IS TRUE AND CORRECT.

EXECUTED ON _____(DATE), **AT**_____(CITY)**.**

BY _____	BY _____
HOME TELEPHONE: _____	HOME TELEPHONE _____
BUSINESS TELEPHONE _____	BUSINESS TELEPHONE _____
EMAIL_____	EMAIL_____

WFG National Title Company
a Williston Financial Group company

THIS AFFIDAVIT WHEN COMPLETED IS TO BE SIGNED AND NOTARIZED. BEFORE RETURNING, BE SURE TO COMPLETE ALL THE REQUIRED INFORMATION TO ENABLE THIS COMPANY TO PROPERLY PROCESS THE TRANSACTION PRESENTLY PENDING.

AFFIDAVIT OF NO MORTGAGE OR DEED OF TRUST

Each for Himself and/or Herself, declare: That to my/our personal knowledge there are NO encumbrances in the form of a Mortgage or Deed of Trust against the property in this transaction.

That this declaration is made for the protection of all parties to this transaction, and particularly for the benefit of **WFG National Title Insurance Company**, which is about to insure the title to said property in reliance thereon, and any other title company which may hereafter insure the title to said property.

That I/We will testify, declare, depose, or certify before any competent tribunal, officer, or person, in any case now pending or which may hereafter be instituted, to the truth of particular facts hereinabove set forth.

TITLE ORDER: 23-178367

PROPERTY ADDRESS: XXXX APN: 061-250-050-000 & 061-250-094-000, Merced, CA 95340

SELLER(S):

_____
Merced Gateway, LLC, a California limited liability company

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

STATE OF CALIFORNIA
COUNTY OF _____ } SS.

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

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

WITNESS my hand and official seal.

Signature _____
Signature of Notary

(This area for official notarial seal)

WFG National Title Company
a Williston Financial Group company

COMMERCIAL OWNER'S AFFIDAVIT

Escrow Number: 23-178367
Title Number: 23-178367
Property: See Exhibit "A" attached hereto and incorporated herein by this reference

The undersigned affiant first being duly sworn, deposes and says:

1. That there have been no construction, repairs, alterations, improvements made, ordered or contracted to be made on or to the Property, nor materials ordered within the last 6 months (or 90 days after completion of work) which have not been paid for, nor are there any fixtures attached to the Property which have not been paid for in full; and there are no outstanding or disputed claims for any such work or item, except:
   _____.

   That the work of improvement, if any:

   ☐ Started on _____
   ☐ Was completed on _____
   ☐ Will be completed on _____

2. That there has been no work done, nor notice received that work is to be done by the municipality (city, borough, or township), or at its direction, including but not limited to the installation of water or sewer lines, or for improvements such as paving or repaving of streets or alleys, or the installation of curbs or sidewalks.

3. That there are no unrecorded leases or agreements affecting the Property, and there is no one in possession of or that has access to the Property, other than:

   ☐ the undersigned.
   ☐ tenants based on month-to-month rental agreements
   ☐ lessees based on existing leases, copies of which are attached hereto
   ☐ _____

4. That there are no (i) private charges or assessments against the Property, (ii) rights of prior approval of a future purchaser or occupant of the Property, or (iii) rights of first refusal or options to purchase all or any part of the Property except:
   _____
   _____
   (**enter "none" or N/A if such is true)**

5. That there are no unpaid real estate taxes or assessments except as shown on the current tax roll. That the undersigned has not received any supplemental tax bill which is unpaid.

6. That no actions in bankruptcy have been filed by or against the entity and/or individual identified herein in any federal court or any other court of competent jurisdiction.

7. As of the date hereof, the subject property is habitable and has not been damaged or destroyed by natural or man-made causes. _____/_____ **(initial to agree/confirm).**

8. That there are no matters pending against the entity and/or individual identified herein that could give rise to a lien that would attach to the property between the most recent effective date of the title commitment and the recording of the interest to be insured, and that the Affiant has not and will not execute any instrument that would adversely affect the title or interest to be insured.

9. That this affidavit is given for the purpose of inducing WFG National Title Insurance Company and/or its agent to issue its policies of title insurance which may provide coverage as to the matters listed above. The undersigned acknowledge that they have read the foregoing and fully understand the legal aspects of any misrepresentation and/or untrue statements made herein and indemnify and hold harmless WFG NATIONAL TITLE INSURANCE COMPANY against liability occasioned by reason of reliance upon the statements made herein.

Executed this _____ day of April, 2024

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____at _____.

_____
Merced Gateway, LLC, a California limited liability company

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

STATE OF CALIFORNIA

ss.

COUNTY OF _____

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____ by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Public Signature

OWNER'S AFFIDAVIT

State of _____ Escrow No.: 23-178367

}

County of_____

The undersigned, first being duly sworn, deposes and says:

1) That they are the owner of that certain real property commonly known as :
XXXX APN: 061-250-050-000 & 061-250-094-000, Merced, CA 95340
[complete street address or addresses]

located in the County of Merced described in your Preliminary Report No. 23-178367.

That the land is lawfully improved by a:

- ☐ Single family residence
- ☐ a one-to-four family residence.
- ☐ Apartment building
- ☐ Office building
- ☐ Commercial building
- ☐ Combination office and commercial building
- ☐ Industrial building
- ☐ _____

2) That there is actual pedestrian and vehicular access to and from said land, except for: _____

3) That there have been no repairs, work of improvement or materials furnished to the premises within the last ninety (90) days except:

_____

That the work of improvement or repairs, if any:

- ☐ Started on _____
- ☐ Was completed on _____
- ☐ Will be completed on _____

4) There are no unpaid bills for labor or material because of any improvements or repairs made to the above premises, for homeowners association dues, or for taxes or assessments, except _____

_____

5) That there is no one in possession of or has access to the premises other than:

- ☐ The undersigned
- ☐ Tenants based only on month-to-month rental agreements
- ☐ Lessees based upon existing leases, copies of which are attached hereto
- ☐ _____

6) That no person(s) other than those mentioned above have any rights, easements, licenses, or agreements allowing them to use, encroach on, or travel over said real property, except _____
(Enter "None" if such is true)

7) That to our knowledge there are no existing violation of city or county ordinances regulating the use of this land, nor any existing dispute with adjoining owners, their tenants or a homeowners association over the boundaries or use of this land, except _

_____

8) That this Affidavit is given for the purpose of inducing WFG National Title Insurance Company to issue its policy(ies) of title insurance which may provide coverage as to the items mentioned above and that the statements made herein are true and correct of my/our own knowledge.

9) That the undersigned has not received any notice of a supplemental tax bill, except _____

10) As of the date hereof, the subject property is habitable and has not been damaged or destroyed by natural or man-made causes. _____/_____ **(initial to agree/confirm).**

11) That said affiant(s) further certify(ies) and declare(s) that they will testify or depose before any competent tribunal, officer, or person in any case now pending or hereafter instituted, to the truth of the foregoing statements and each of them.

Affiant(s), please remember to attach copies.

Dated: _____

_____
Merced Gateway, LLC, a California limited liability company

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

STATE OF CALIFORNIA

ss.

COUNTY OF _____

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____ by

_____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____

Notary Public Signature

Order No.: 23-178367

SELLER/OWNER'S AFFIDAVIT AND INDEMNITY

STATE OF CALIFORNIA

County of _____

I/We, Merced Gateway, LLC, a California limited liability company, being first duly sworn, on oath depose and state that I/we own the following described property:

See Exhibit "A" attached hereto and made a part hereof

I/We have owned the property now being sold or mortgaged by me continuously for _____ years, and my enjoyment thereof has been peaceable and undisturbed and the title to said property has never been disputed to my knowledge, nor do I/we know of any facts by reason of which the title to, or possession of, said property might be disputed or by reason of which any claim to any of said property might be asserted adversely to me/us, and more particularly:

1. No party other than the Seller(s)/Owner(s) is in possession of all or any portion of the premises above described under any unrecorded leases, tenancy at will or otherwise aside from those listed in Schedule B attached hereto.
2. The Seller(s)/Owner(s) during the time of ownership of the premises above described has/have conveyed no portion of the premises nor done any act or allowed any act to be done which has changed or could change the boundaries of the premises.
3. The Seller(s)/Owner(s) has/have allowed no encroachments on the premises above described by any adjoining land owners nor has/have the undersigned encroached upon any property of adjoining land owners.
4. The Seller(s)/Owner(s) has/have allowed no easements, rights of way, continuous driveway usage, drain, sewer, water, gas or oil pipeline or other rights of passage to others over the premises above described and has/have no knowledge of such adverse rights.
5. The Seller(s)/Owner(s), at present, for a period of _____ days past, has/have caused no construction, erection, alteration or repairs of any structures or improvements on the premises above cited to be done, nor has/have contracted for any material to be delivered to the premises for which charges therefore remain unpaid.
6. That there are no pending suits, proceedings, judgments, bankruptcies, liens or executions against said owner, either in the aforesaid county or any other county in the aforesaid state.
7. As of the date hereof, the subject property is habitable and has not been damaged or destroyed by natural or man-made causes. _____/_____ **(initial to agree/confirm).**

This affidavit is given to induce WFG National Title Insurance Company, to issue its title insurance policy or policies without exception to claims of materialmen's laborers' liens, survey matters, special assessments and rights of parties in possession, and as an inducement therefor, said affiant agrees to indemnify to hold WFG National Title Insurance Company harmless of and from any and all loss, cost, damage and expense of every kind, including Attorney's fees, which said WFG National Title Insurance Company shall or may suffer or incur or become liable for under its said policy or policies not to be issued, or any reissue, renewal or extension thereof, directly or indirectly, as a result of any misrepresentation herewith.

Dated this _____ of April, 2024.

_____

Merced Gateway, LLC, a California limited liability company

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

State of California

County of _____

On _____, before me, _____, a Notary Public, personally appeared

_____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

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

WITNESS my hand and official seal.

Signature _____

(This area for official notarial seal)

EXHIBIT "A"
LEGAL DESCRIPTION

PARCEL ONE:

LOT 171, AS SHOWN ON THE MAP ENTITLED, "MAP OF MERCED COLONY", FILED FEBRUARY 3, 1910, IN THE OFFICE OF THE COUNTY RECORDER OF MERCED COUNTY, IN VOL. 4 OF OFFICIAL PLATS, AT PAGE 24.

EXCEPTING THEREFROM THAT PORTION DEEDED TO COUNTY OF MERCED, A BODY POLITIC AND CORPORATE ACCORDING TO THAT GRANT DEED RECORDED JULY 30, 2008, AS DOCUMENT NO. 2008-040849, OF OFFICIAL RECORDS.

ALSO EXCEPT THEREFROM ALL OIL, GAS, AND OTHER HYDROCARBONS AND MINERALS, AS RESERVED IN THE DEED FROM OSCAR B. CHANEY, ET UX, RECORDED JUNE 30, 1938, IN BOOK 578 OF OFFICIAL RECORDS, PAGE 211, MERCED COUNTY RECORDS.

PARCEL TWO:

LOTS 172, 231 AND 232, AS SHOWN ON HUMAN ENTITLED ”MAP OF MERCED COLONY", FILED FEBRUARY 3, 1910, IN THE OFFICE OF THE COUNTY RECORDER OF MERCED COUNTY, IN VOL. 4 OF MAPS, AT PAGE 24.

EXCEPTING THEREFROM THAT PORTION DEEDED TO COUNTY OF MERCED, A BODY POLITIC AND CORPORATE ACCORDING TO THAT GRANT DEED RECORDED JULY 30, 2008, AS DOCUMENT NO. 2008-040850, OF OFFICIAL RECORDS.

ALSO EXCEPTNG THEREFROM THAT PORTION DEEDED TO CITY OF MERCED, A CALIFORNIA CHARTER MUNICIPAL CORPORATION ACCORDING TO THAT GRANT DEED DATED OCTOBER 18, 2023 AND RECORDED: “TO BE RECORDED” AS INSTRUMENT NO. “TO BE RECORDED”, MERCED COUNTY RECORDEDS.

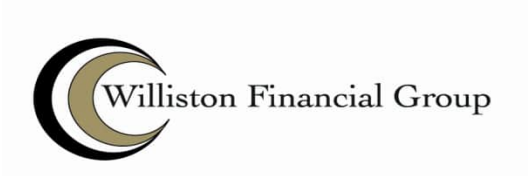
ALSO EXCEPTNG THEREFROM THE PROPERTY RIGHTS RESERVED IN DEED RECORDED JUNE 4, 1954 IN VOL. 1158 OF OFFICIAL RECORDS, PAGE 520, MERCED COUNTY RECORDS.

APN: 061-250-050 [AFFECTS PARCEL ONE]
061-250-094 [AFFECTS PARCEL TWO]

EXHIBIT "B"

Enter any leases and/or rental agreements if none, state “None"

_____
_____
_____
_____
_____
_____



Williston Financial Group Privacy Notice

Williston Financial Group LLC, WFG National Title Insurance Company, and each of the affiliates listed below (collectively "WFG" or the "WFG Family") believe it is important to protect your privacy and confidences. We recognize and respect the privacy expectations of our customers. We believe that making you aware of how we collect information about you, how we use that information, and with whom we share that information will form the basis for a relationship of trust between us. This Privacy Notice provides that explanation. We reserve the right to change this Privacy Notice from time to time.

WFG's primary business is providing appraisal, title insurance, and escrow services for the sale or refinance of real property. This can be a complicated process involving multiple parties, many of whom have been selected by our customers, each filling a specialized role. In part, you have hired WFG to coordinate and smooth the passage of the information necessary for an efficient settlement or closing.

In the course of this process, WFG collects a significant amount of personal and identifying information about the parties to a transaction, including sensitive items that include but are not limited to: your contact information, including email addresses, Social Security numbers, driver's license, and other identification numbers and information; financial, bank and insurance information; information about past and proposed mortgages and loans; information about properties you currently or previously owned; your mortgage application package; and the cookie, IP address, and other information captured automatically by computer systems.

Much of this information is gathered from searches of public land, tax, court and credit records to make certain that any liens, challenges or title defects are addressed properly. Some of the information that is collected is provided by you or the computer systems you use. We also may receive information from real estate brokers and agents, mortgage brokers and lenders, and others working to facilitate your transaction, as well as information from public, private or governmental databases including credit bureaus, 'no-fly' lists, and terrorist 'watch lists'.

What Information is Shared?

WFG DOES NOT SELL any of your information to non-affiliated companies for marketing or any other purpose.

However, some of the same information does get shared with persons inside and outside the WFG Family in order to facilitate and complete your transaction.

For example:

However, some of the same information does get shared with persons inside and outside the WFG Family in order to facilitate and complete current and future transactions.

For example:

- Information, draft documents, and closing costs will pass back and forth between WFG and your mortgage broker and lender to facilitate your transaction.
- Information, including purchase agreements and amendments, will pass back and forth between WFG and the real estate agents and brokers, the mortgage brokers and lenders, the lawyers and accountants, and others involved in facilitating the transaction.
- WFG may order property searches and examinations from title searchers, abstractors and title plants.
- WFG may use third parties to obtain tax information, lien information, payoff information, and condominium or homeowners' association information.
- Third parties may be engaged to prepare documents in connection with your transaction.
- Surveys, appraisals, and inspections may be ordered.
- Within the WFG Family of companies, we may divide up the work to handle each closing in the most efficient manner possible and to meet specific legal and licensing requirements. Certain parts of your closing (for example a search or disbursement) may be handled by another division or company within the WFG Family.

- When it is time for signatures, your complete closing package may be sent to a notary, remote online notary, or notary service company who will arrange to meet with you to sign documents. The notary will, in turn, send signed copies back to us along with copies of your driver's license or other identity documents, usually by mail, UPS, Federal Express or another courier service.
- Your deed, mortgage and other documents required to perfect title will be recorded with the local recorder of deeds.
- In some cases, we use an outside service to coordinate the recording or electronic-recording of those instruments, and they will receive copies of your deeds, mortgages and other recordable documents to process, scan and send on to the recording office.
- Information within your title policy may be shared with WFG National Title Insurance Company title policy issuing agents to facilitate future financial transactions involving your property.
- Various government agencies get involved. The law requires us to provide certain information to the IRS, the U.S. Department of the Treasury, local and state tax authorities, and other regulatory and governmental agencies.
- **WFG title policy issuing agents only**: personal information provided by you may be shared with a third party for the purposes of facilitating training to obtain CE/CLE credits.

You have a choice in the selection of a mortgage broker, lender, real estate broker or agent and others that make up your 'transaction team.' Information flows to and from the members of the transaction team you have selected to facilitate an efficient transaction for you.

When WFG selects and engages a third party provider, we limit the scope of the information shared with that third party to the information reasonably necessary for that service provider to provide the requested services. With most, we have entered into agreements in which they expressly commit to maintain a WFG customer's information in strict confidence and use the information only for purposes of providing the requested services, clearing title, preventing fraud and addressing claims under our title insurance policies.

How does WFG use your Information?

We may use your personal information in a variety of ways, including but not limited to:

- Provide the products, services and title insurance you have requested, and to close and facilitate your transaction.
- Provide and use historic transaction information to facilitate future financial transactions.
- Coordinate and manage the appraisal process.
- Handle a claim or provide other services relating to your title insurance policies.
- Create, manage, and maintain your account.
- Operate and improve WFG's applications and websites, including WFG MyHome®, WFG's secure communication and transaction portal. Your information is used for access management, payment processing, site administration, internal operations, troubleshooting, data analysis, testing, research, and for statistical purposes.
- Respond to your requests, feedback or inquiries.
- Comply with laws, regulations, and other legal requirements.
- Comply with relevant industry standards and our policies, including managing WFG's risk profile through reinsurance.
- Protect and enforce your rights and the rights of other users against unlawful activity, including identity theft and fraud.
- Protect and enforce our collective rights arising under any agreements entered into between WFG and you or any other third party.
- Protect the integrity and maintain security of our applications, websites, and products.
- Operate, evaluate, and improve our business.
- Provide you with information about products, services, and promotions from WFG or third parties that may interest you.
- **WFG title policy issuing agents only**: Provide you with a training platform to obtain CE/CLE credits

How Do We Store and Protect Your Personal Information?

Although no system can guarantee the complete security of your personal information, we will use our best efforts to maintain commercially reasonable technical, organizational, and physical safeguards, consistent with applicable law, to protect your personal information and our systems and sites from malicious intrusions or hacking.

How Long Do We Keep Your Personal Information?

We keep your personal information for as long as necessary to comply with the purpose for which it was collected, our business needs, and our legal and regulatory obligations. We may store some personal information indefinitely. If we dispose of your personal information, we will do so in a way that is secure and appropriate to the nature of the information subject to disposal.

Computer Information

When you access a WFG website, or communicate with us by e-mail, we may automatically collect and store more information than you are expressly providing when you fill out a survey or send an email. This may include:

- Your IP Address.
- Your email address, your alias and, social media handles.
- The type of browser and operating system you use.
- The time of your visit.
- The pages of our site you visit.
- Cookies.

In order to provide you with customized service, we make use of Web browser cookies. Cookies are files that help us identify your computer and personalize your online experience. You may disable cookies on your computer, but you may not be able to download online documents or access certain websites unless cookies are enabled.

The technical information we collect is used for administrative and technical purposes and to prevent fraud and provide identity verification. For instance, we may use it to count the number of visitors to our website and determine the most popular pages. We may also use it to review types of technology you are using, determine which link brought you to our website, assess how our advertisements on other websites are working, help with maintenance, and improve our customers' experience.

We may compare information gathered on previous visits to verify that we are interacting with the same parties and not a potential imposter.

If we ask you to fill out any forms or surveys, we will use the information we receive only for the specific purposes indicated in those forms or surveys.

The information you and your transaction team send us in emails or attached to an email, or provide through any of our online tools, is used for purposes of providing title, escrow and appraisal management services and used for the purposes described above.

In addition to the above, if you use an eClosing platform to sign your real estate transaction additional information may be collected. This may include:

- Your IP address.
- Your location.
- Your email address and your alias.
- The type of browser and operating system you use.
- The time of your visit.
- Your biometrics.
- Your image.
- Video recording of your transaction signing.
- Transaction metadata.
- Cookies.

Links to Third Party Sites

Our Applications and Websites may contain links to third-party websites and services. Please note that these links are provided for your convenience and information, and the websites and services may operate independently from us and have their own privacy policies or notices, which we strongly suggest you review. This Privacy Notice applies to WFG's applications and websites only.

Do Not Track

Because there is not an industry-standard process or defined criteria to permit a user to opt-out of tracking their online activities ("Do Not Track"), our websites do not currently change the way they operate based upon detection of a Do Not Track or similar signal. Likewise, we cannot assure that third parties are not able to collect information about your online activities on WFG websites or applications.

Social Media Integration

Our applications, websites, and products contain links to and from social media platforms. You may choose to connect to us through a social media platform, such as Facebook, Twitter, Google, etc. When you do, we may collect from the social media platform additional information from or about you, such as your screen names, profile picture, contact information, contact list, and the profile pictures of your contacts. The social media platforms may also collect information from you.

When you click on a social plug-in, such as Facebook's "Like" button, Twitter's "tweet" button, or the Google+, that particular social network's plug-in will be activated and your browser will directly connect to that provider's servers. Your action in clicking on the social plug-in causes information to be passed to the social media platform.

We do not have control over the collection, use and sharing practices of social media platforms. We therefore encourage you to review their usage and disclosure policies and practices, including their data security practices, before using social media platforms.

How Can You "Opt-Out?"

We do not sell your information; therefore there is no need to opt-out of such reselling. Under various laws, you can opt-out of the sharing of your information for more narrow purposes. For additional detail, consult the Links under the "Legal" Notices attached below.

The "Legal" Notices

To comply with various federal and state laws, we are required to provide more complete legal notices and disclosures – see links below. The state-specific statutes referenced therein may also give residents of those states additional rights and remedies.

Privacy Notice for California Residents - https://national.wfgnationaltitle.com/privacy-notice-california

Privacy Notice for Oregon Residents - https://national.wfgnationaltitle.com/privacy-notice-oregon

How to Contact Us

If you have any questions about WFG's privacy notice or how we protect your information, please contact WFG:

- By email: Consumerprivacy@willistonfinancial.com
- By telephone: 833-451-5718
- By fax: 503-974-9596
- By mail: 12909 SW 68th Pkwy, Suite 350, Portland, OR 97223

WFG FAMILY

WILLISTON FINANCIAL GROUP LLC
WFG NATIONAL TITLE INSURANCE COMPANY
WFG LENDER SERVICES, LLC
WFGLS TITLE AGENCY OF UTAH, LLC
WFG NATIONAL TITLE COMPANY OF WASHINGTON, LLC
WFG NATIONAL TITLE COMPANY OF CALIFORNIA
WFG NATIONAL TITLE COMPANY OF TEXAS, LLC D/B/A WFG NATIONAL TITLE COMPANY
UNIVERSAL TITLE PARTNERS, LLC
VALUTRUST SOLUTIONS, LLC
MYHOME, A WILLISTON FINANCIAL GROUP COMPANY, LLC (formerly known as WILLISTON ENTERPRISE SOLUTIONS & TECHNOLOGY, LLC)
WFG NATIONAL TITLE COMPANY OF CLARK COUNTY, WA, LLC, D/B/A WFG NATIONAL TITLE

Rev 12.20.2022

Rev. 12/2022

FACTS	WHAT DOES WILLISTON FINANCIAL GROUP DO WITH YOUR PERSONAL INFORMATION?
Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and other government identification information • Your name, address, phone, and email • Information about the property, any liens and restrictions • Financial Information including credit history and other debt • Financial account information, including wire transfer instructions.
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Williston Financial Group chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does Williston Financial Group share?	Can you limit this sharing?
For our everyday business purposes— such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes— to offer our products and services to you	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness	No	We don't share
For our affiliates to market to you	No	We don't share
For nonaffiliates to market to you	No	We don't share

To limit our sharing	• Call 833-451-5718—our menu will prompt you through your choice(s) • Visit us online: http://bit.ly/WFGsConsumerPrivacyInformationRequestPage or e-mailing us at consumerprivacy@willistonfinancial.com • Mail the form below Please note: If you are a new customer, we can begin sharing your information from the date we sent this notice. When you are no longer our customer, we continue to share your information as described in this notice. However, you can contact us at any time to limit our sharing.
Questions?	Call 833-451-5718 or Email consumerprivacy@willistonfinancial.com

- - - -

Who we are	
Who is providing this notice	Williston Financial Group, LLC and its affiliates and subsidiaries as listed below:
What we do	
How does Williston Financial Group protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. We limit access to your information to employees that need to use the information to process or protect transaction. We take industry standard (IPSEC) measures to protect against malicious intrusions or hacking
How does Williston Financial Group collect my personal information?	We collect your personal information, for example, when you • Apply for insurance • Engage us to provide appraisal, title and escrow services • Give us your contact information • Provide your mortgage information • Show your driver's license We also collect your personal information from others, such as real estate agents and brokers, mortgage brokers, lenders, credit bureaus, affiliates, and others
Why can't I limit all sharing?	Federal law gives you the right to limit only • sharing for affiliates' everyday business purposes—information about your creditworthiness • affiliates from using your information to market to you • sharing for nonaffiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See below for more on your rights under state law.
What happens when I limit sharing for an account I hold jointly with someone else?	Your choices will apply to everyone on your policy.
Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. Our affiliates include companies with a common corporate identity, including those listed below.
Nonaffiliates	Companies not related by common ownership or control. They can be financial and nonfinancial companies. Nonaffilliates we share with can include real estate agents and brokers, mortgage brokers, lenders, appraisers, abstractors and title searchers and others as appropriate to facilitate your transaction.
Joint marketing	A formal agreement between nonaffiliated financial companies that together market financial products or services to you. Williston Financial Group does not jointly market.
Other important information	
As a resident or citizen of certain states, we may have to provide additional state specific privacy notices and you may have rights other than as set forth above. The links below will provide state specific information: **Privacy Notice for California Residents** - https://national.wfgnationaltitle.com/privacy-notice-california **Privacy Notice for Oregon Residents** - https://national.wfgnationaltitle.com/privacy-notice-oregon	

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

PHASE I ESA
PROPERTY OWNER QUESTIONNAIRE

Property Name: Proposed Gateway Development

Address/APN: Campus Parkway / 061-710-009 & A Portion of 061-710-023

City/State/Zip: Merced, California 95340

Name: TIMOTHY JONES Company: MERCED GATEWAY, LLC

Date: 5/10/24 Phone: 559 237 7000

Knowledge of Previous Owner(s) and Phone Number? BAND B. ASSOCIATES, PHONE NUMBER OF UNKNOWN

How are you associated with the subject site? OWNER

How long have you been associated with the subject site? 17 YRS

What is the subject site currently used for? VACANT

Are there structures on the subject site? **Yes** (**No**) How many? _____

Do you know of any previous structures on the subject site? **Yes** (**No**)
If so, describe uses. _____

Do you have knowledge of the presence of underground storage tanks (UST) or aboveground storage tanks (AST) being located on the subject property (current or historical)? **Yes** (**No**)
(If so, please provide info including number, size, contents, and locations.)

Currently: _____ Historically: _____

Do you know of any chemicals, hazardous materials and/or persistent pesticides/herbicides (such as DDT) being used, stored or discharged on the subject site? **Yes** (**No**)
If so, please list any chemicals / hazardous materials and their location(s). _____

Do you have any knowledge of imported soil on the subject property? **Yes** (**No**)
If so, please indicate the origin and location of the imported soil? _____

Do you know of any buried materials such as garbage dumps, burn pits or underground pipelines located on the subject site? **Yes** **No**
If so, please specify and indicate the location(s). THERE IS AN ABANDONED CANAL ON THE NORTHERN PORTION OF THE SITE. UNKNOWN IF ANY PIPELINES WERE ASSOCIATED AND ARE STILL IN PLACE.

Do you know of any septic systems located on the subject property (current or historical)? **Yes** **No**
If so, how many currently? _____ If so, how many historically? _____

Do you know of any domestic or agricultural water wells located on the subject property (current or historical)? **Yes** **No**
If so, how many currently? _____ If so, how many historically? _____

Do you know of any dry wells located on the subject property (current or historical)? **Yes** **No**

Do you know of any environmental monitoring wells located on the subject property (current or historical)? **Yes** **No**

Do you know of any drainage or disposal ponds located on the subject property? **Yes** **No**

Is the subject property connected to municipal water and/or sewer systems? **Yes** **No**

Do you know of obvious indications pointing to the presence or likely presence of contamination of the subject property? **Yes** **No**
If so, please specify and indicate location. _____

_____

Do you have any concerns about adjacent property usage such as gasoline stations, industrial uses, or USTs/ASTs on adjacent properties? **Yes** **No**

Are you aware of any environmental cleanup liens against the subject property that are filled or recorded under federal, tribal, state, or local law? **Yes** **No**

Have there been any previous commercial and/or industrial (non-residential) tenants/occupants on the subject property or in on-site buildings? **Yes** **No**
If so, please list: _____

_____

Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state, or local law? **Yes** **No**
If so, please specify. _____

_____

_____

Do you have specialized knowledge or experience related to the subject property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject property or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business? **Yes** (**No**)
If so, please specify and briefly explain. _____

Do you know the past uses of the subject property? (**Yes**) **No**
If so, briefly explain. IT WAS FARMED AT SOME POINT. CROP TYPE UNKNOWN.

Do you have knowledge of the current or historical presence of vehicle repair-related features (i.e. sumps, oil/water clarifiers, subsurface hydraulic vehicle hoists, etc.)? **Yes** (**No**)
If so, briefly explain. _____

Do you know of specific chemicals that are present or once were present at the subject property?
Yes (**No**)
If so, briefly explain. _____

Do you know of any spills or other chemical releases that have taken place at the subject property?
Yes (**No**)
If so, briefly explain. _____

Are you aware of, or have you been notified of, any contamination issues to soil or groundwater either at the subject property or in the vicinity of the subject site? **Yes** (**No**)
If so, briefly explain. _____

What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development, etc.) SALE

If purchase price has been established, does it reasonably reflect fair market value? YES

Are there any proposed changes in the uses of the subject site? (**Yes**) **No**
If so, please specify. BUYER WISHES TO DEVELOP

Merced Gateway, LLC
By Central Pacific Ventures, LLC, Its Manager
Name: By Timothy Jones, Manager Date: 5/14/2024
(Please Print)

Signature: _____

Krazan &ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

PHASE I ESA
USER QUESTIONNAIRE

Property Name: Proposed Gateway Development

Address/APN: Campus Parkway / 061-710-009 & A Portion of 061-710-023

City/State/Zip: Merced, California 95340

Respondent Information:

Name: Rabie Mekideche

Company: Lennar Homes of California, LLC

Date: May 9, 2024

Phone: 559-488-9548

Introduction

"In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield Revitalization Act of 2001 (the 'Brownfields Amendments'), the *user* must provide the following inquiries required by 40 CFR §§ 312.25, 312.28, 312.29, 312.30 and 312.31. The *user* should provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that '*all appropriate inquiry*' is not complete." - American Society for Testing and Materials (ASTM) E1527-21 Appendix X3. User Questionnaire

1. Are you aware of any environmental cleanup liens against the subject site that are filed or recorded under federal, tribal, state, or local law?

I am not aware of any environmental cleanup liens against the subject site that are filled or recorded under federal, tribal, state or local law.

2. Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

I am not aware of any activity use limitations filed or recorded on the property.

3. As the user of the Phase I Environmental Site Assessment (ESA), do you have any specialized knowledge or experience related to the subject site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject site or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

I do not have any specialized knowledge of the chemicals related to the subject site or nearby property.

4. Does the purchase price being paid for the subject site reasonably reflect the fair market value of the subject site? **(Yes)** **No**

   A. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject site?

   N/A

5. Are you aware of commonly known or reasonably ascertainable information about the subject site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

   A. Do you know the past uses of the subject site? If so, briefly explain.

   No.

   B. Do you know of specific chemicals that are present or once were present at the subject site? If so, briefly explain.

   I am not aware of any specific chemicals that are present or were once present on the subject site.

   C. Do you know of spills or other chemical releases that have taken place at the subject site? If so, briefly explain.

   I am not aware of any spills or other chemical releases that have taken place at the subject site.

   D. Do you know of any environmental cleanups that have taken place at the subject site? If so, briefly explain.

   I am not aware of any environmental cleanups on the subject site.

6. As the user of the Phase I ESA, based on your knowledge and experience related to the subject site, are there any obvious indicators that point to the presence or likely presence of contamination at the subject site?

Based on my knowledge and experience related to the subject site, I have found no obvious indicators that point to the presence or likely presence of contamination at the subject site.

7. What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)

Property purchase due diligence.

I, the user of this Phase I ESA (or authorized representative of the User), do hereby attest that I have carefully considered the questions herein and have presented answers to the best of my knowledge and ability based upon the Responsibilities of the User as required within ASTM E1527-21 guidance.

Name Rabie Mekideche Date 5/9/2024
(Please Print)

Signature

Appendix C

Proposed Residential Property
Campus Parkway
Merced, CA 95341

Inquiry Number: 7647153.2s
May 09, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	48
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-10
Physical Setting Source Map Findings	A-12
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

CAMPUS PARKWAY
MERCED, CA 95341

COORDINATES

Latitude (North):	37.2769000 - 37° 16' 36.84''
Longitude (West):	120.4266840 - 120° 25' 36.06''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	728156.8
UTM Y (Meters):	4128491.0
Elevation:	184 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50005613 MERCED, CA
Version Date:	2021

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200619
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
CAMPUS PARKWAY
MERCED, CA 95341

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	MERCED GATEWAY	NORTHEAST OF MISSION	NPDES, CIWQS	Higher	1 ft.
2	KARN ICE CREAM (6DBR	448 AZALEA CT.	CUPA Listings	Higher	385, 0.073, North
3	A. S. ICE CREAM (5P2	408 LILY DR.	CUPA Listings	Higher	613, 0.116, North
A4	ACCIO TREATS - (TFF)	440 DAFFODIL DR.	CUPA Listings	Higher	716, 0.136, NW
A5	ACCIO TREATS	440 DAFFODIL DR.	CUPA Listings	Higher	716, 0.136, NW
6	AT&T CORP. - UG1VJ (	2800 ALBERT DR.	CUPA Listings	Higher	1009, 0.191, North
B7	TRACTOR SUPPLY COMPA	882 S. COFFEE ST.	CUPA Listings	Lower	1295, 0.245, WSW
B8	TRACTOR SUPPLY COMPA	882 S COFFEE ST	RCRA NonGen / NLR	Lower	1295, 0.245, WSW
B9	TRACTOR SUPPLY COMPA	882 S. COFFEE ST.	CUPA Listings	Lower	1295, 0.245, WSW
B10	TRACTOR SUPPLY COMPA	882 S COFFEE ST	CERS HAZ WASTE, HWTS, CERS	Lower	1295, 0.245, WSW
B11	STARBUCKS COFFEE COM	856 S. COFFEE ST.	CUPA Listings	Lower	1297, 0.246, WSW
B12	BP 07124	810 S COFFEE ST	RCRA NonGen / NLR	Lower	1299, 0.246, WSW
B13	ARCO 07124	810 S COFFEE ST	CERS HAZ WASTE, CERS TANKS, CERS	Lower	1299, 0.246, WSW
B14	ARCO AMPM 7124	810 S. COFFEE ST.	CUPA Listings	Lower	1299, 0.246, WSW
B15	ARCO 07124	810 S COFFEE ST	UST	Lower	1299, 0.246, WSW
B16	ARCO 07124	810 S. COFFEE ST.	CUPA Listings	Lower	1299, 0.246, WSW
17	PLUIM PROPERTY	392 COFFEE	LUST, Cortese, CERS	Lower	1300, 0.246, NW
18	PRIVATE RESIDENCE	PRIVATE RESIDENCE	LUST	Lower	2410, 0.456, SSW
19	CUADROS SITE	1445 YALE AVENUE	LUST	Lower	2420, 0.458, South
20	MERCED MUNICIPAL AIR	CHILDS & WEST AVENUE	ENVIROSTOR	Higher	3357, 0.636, NE
C21	GE/KENDALL/BECHTEL (	1715 NORTH KIBBY ROA	ENVIROSTOR, EMI	Higher	5164, 0.978, NNE
C22	WELLMADE METAL PRODU	1715 KIBBY ROAD	CA BOND EXP. PLAN, EMI	Higher	5164, 0.978, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE ..... State Response Sites

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ..... Solid Waste Information System

Lists of state and tribal leaking storage tanks

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

Lists of state and tribal registered storage tanks

FEMA UST ..... Underground Storage Tank Listing
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

Lists of state and tribal brownfield sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program

EXECUTIVE SUMMARY

UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
PFAS	PFAS Contamination Site Location Listing
AQUEOUS FOAM	Former Fire Training Facility Assessments Listing
CHROME PLATING	Chrome Plating Facilities Listing
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
ICE	Inspection, Compliance and Enforcement
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
HWTS	Hazardous Waste Tracking System
HAZNET	Facility and Manifest Data
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
HAZMAT	Hazardous Material Facilities
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)

EXECUTIVE SUMMARY

SAMPLING POINT---------- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ---------- Well Stimulation Project (GEOTRACKER)
UST FINDER RELEASE------ UST Finder Releases Database
UST FINDER---------- UST Finder Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/22/2024 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MERCED MUNICIPAL AIR Facility Id: 24450005 Status: Refer: RWQCB	CHILDS & WEST AVENUE	NE 1/2 - 1 (0.636 mi.)	20	44
GE/KENDALL/BECHTEL (Facility Id: 24280043 Status: Refer: RWQCB	***1715 NORTH KIBBY ROA***	***NNE 1/2 - 1 (0.978 mi.)***	***C21***	***45***

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PLUIM PROPERTY Database: LUST, Date of Government Version: 12/04/2023 Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Completed - Case Closed Status: Case Closed Global Id: T0604755452	***392 COFFEE***	***NW 1/8 - 1/4 (0.246 mi.)***	***17***	***36***
PRIVATE RESIDENCE Database: LUST, Date of Government Version: 12/04/2023 Status: Completed - Case Closed Global Id: T0604784170	PRIVATE RESIDENCE	SSW 1/4 - 1/2 (0.456 mi.)	18	40
CUADROS SITE Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Post remedial action monitoring	1445 YALE AVENUE	S 1/4 - 1/2 (0.458 mi.)	19	43

Lists of state and tribal registered storage tanks

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARCO 07124 Database: UST, Date of Government Version: 12/04/2023	810 S COFFEE ST	WSW 1/8 - 1/4 (0.246 mi.)	B15	30

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 01/16/2024 has revealed that there are 2 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TRACTOR SUPPLY COMPA	***882 S COFFEE ST***	***WSW 1/8 - 1/4 (0.245 mi.)***	***B10***	***17***
ARCO 07124	***810 S COFFEE ST***	***WSW 1/8 - 1/4 (0.246 mi.)***	***B13***	***23***

Local Lists of Registered Storage Tanks

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 01/16/2024 has revealed that there is 1 CERS TANKS site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARCO 07124	***810 S COFFEE ST***	***WSW 1/8 - 1/4 (0.246 mi.)***	***B13***	***23***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/04/2023 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TRACTOR SUPPLY COMPA EPA ID:: CAL000469640	882 S COFFEE ST	WSW 1/8 - 1/4 (0.245 mi.)	B8	15
BP 07124 EPA ID:: CAL000457712	810 S COFFEE ST	WSW 1/8 - 1/4 (0.246 mi.)	B12	21

CA BOND EXP. PLAN: Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

A review of the CA BOND EXP. PLAN list, as provided by EDR, and dated 01/01/1989 has revealed that there is 1 CA BOND EXP. PLAN site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WELLMADE METAL PRODU	***1715 KIBBY ROAD***	***NNE 1/2 - 1 (0.978 mi.)***	***C22***	***46***

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 12/13/2023 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PLUIM PROPERTY	***392 COFFEE***	***NW 1/8 - 1/4 (0.246 mi.)***	***17***	***36***
Cleanup Status: COMPLETED - CASE CLOSED				

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 10 CUPA Listings sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KARN ICE CREAM (6DBR	448 AZALEA CT.	N 0 - 1/8 (0.073 mi.)	2	10
Database: CUPA MERCED, Date of Government Version: 11/15/2023				
Facility Id: FA0009313				
A. S. ICE CREAM (5P2	408 LILY DR.	N 0 - 1/8 (0.116 mi.)	3	10
Database: CUPA MERCED, Date of Government Version: 11/15/2023				
Facility Id: FA0009214				
ACCIO TREATS - (TFF)	440 DAFFODIL DR.	NW 1/8 - 1/4 (0.136 mi.)	A4	11
Database: CUPA MERCED, Date of Government Version: 11/15/2023				
Facility Id: FA0009606				
ACCIO TREATS	440 DAFFODIL DR.	NW 1/8 - 1/4 (0.136 mi.)	A5	11
Database: CUPA MERCED, Date of Government Version: 11/15/2023				
Facility Id: FA0010006				
AT&T CORP. - UG1VJ (	2800 ALBERT DR.	N 1/8 - 1/4 (0.191 mi.)	6	12
Database: CUPA MERCED, Date of Government Version: 11/15/2023				
Facility Id: FA0009125				

Lower Elevation	Address	Direction / Distance	Map ID	Page
TRACTOR SUPPLY COMPA	882 S. COFFEE ST.	WSW 1/8 - 1/4 (0.245 mi.)	B7	14
Database: CUPA MERCED, Date of Government Version: 11/15/2023				
Facility Id: FA0009856				
TRACTOR SUPPLY COMPA	882 S. COFFEE ST.	WSW 1/8 - 1/4 (0.245 mi.)	B9	17
Database: CUPA MERCED, Date of Government Version: 11/15/2023				

Facility Id: FA0009961

STARBUCKS COFFEE COM 856 S. COFFEE ST. WSW 1/8 - 1/4 (0.246 mi.) B11 20
Database: CUPA MERCED, Date of Government Version: 11/15/2023
Facility Id: FA0010016

ARCO AMPM 7124 810 S. COFFEE ST. WSW 1/8 - 1/4 (0.246 mi.) B14 29
Database: CUPA MERCED, Date of Government Version: 11/15/2023
Facility Id: FA0009160

ARCO 07124 810 S. COFFEE ST. WSW 1/8 - 1/4 (0.246 mi.) B16 34
Database: CUPA MERCED, Date of Government Version: 11/15/2023
Facility Id: FA0009384

NPDES: A listing of NPDES permits, including stormwater.

A review of the NPDES list, as provided by EDR, and dated 02/05/2024 has revealed that there is 1 NPDES site within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MERCED GATEWAY	***NORTHEAST OF MISSION***	***0 - 1/8 (0.000 mi.)***	***1***	***9***

CIWQS: The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

A review of the CIWQS list, as provided by EDR, and dated 11/22/2023 has revealed that there is 1 CIWQS site within approximately 0.001 miles of the target property.

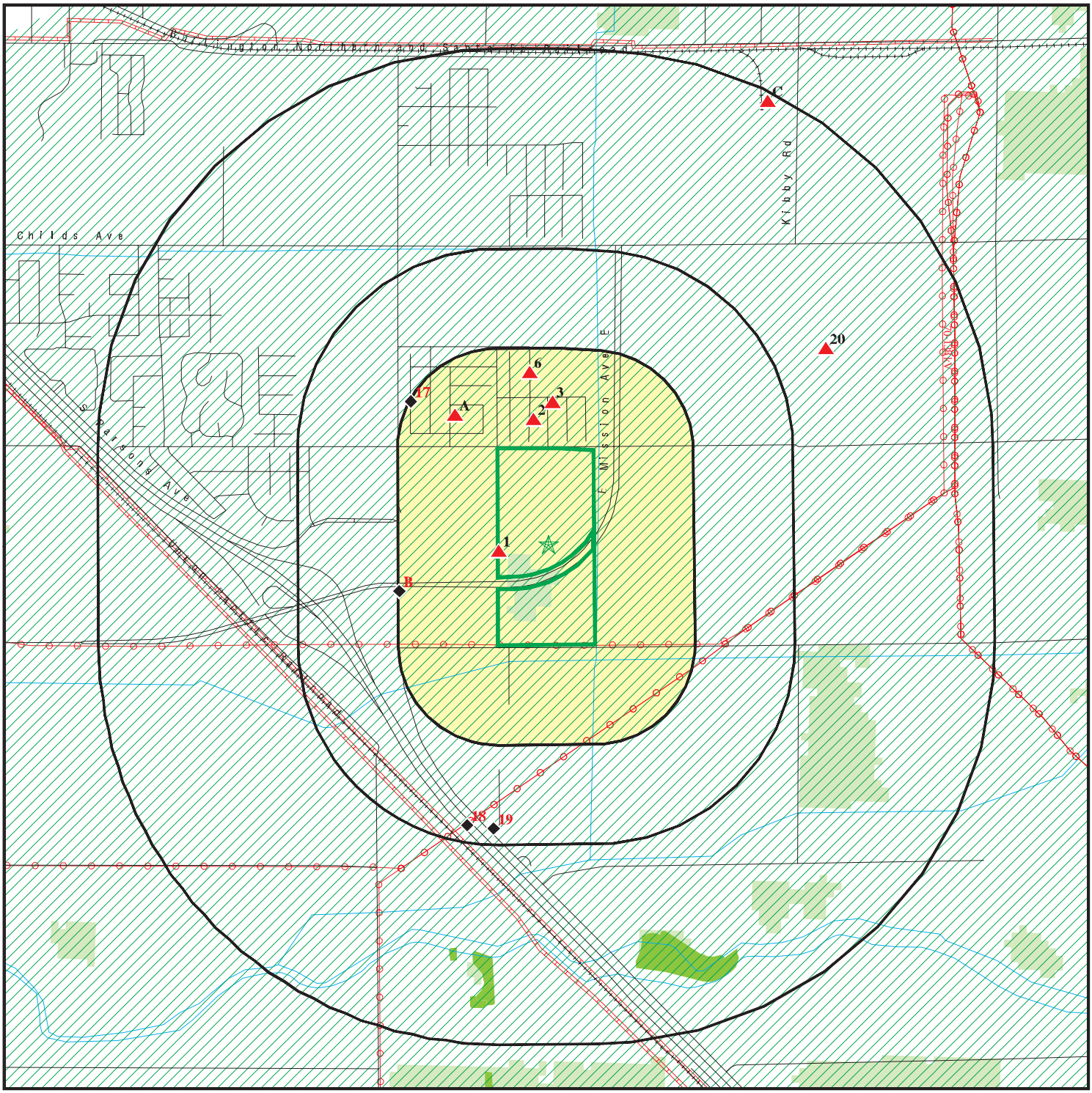
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MERCED GATEWAY	***NORTHEAST OF MISSION***	***0 - 1/8 (0.000 mi.)***	***1***	***9***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
MERCED MUNICIPAL AIRPORT	CDL CA BOND EXP. PLAN
TUTTLE ELEMENTARY SCHOOL	ENVIROSTOR, SCH

OVERVIEW MAP - 7647153.2S



Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
National Priority List Sites
Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA
Power transmission lines
Pipelines
Special Flood Hazard Area (1%)
0.2% Annual Chance Flood Hazard
National Wetland Inventory
State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	Campus Parkway Merced CA 95341	CONTACT:	Melanie L Thomas
LAT/LONG:	37.2769 / 120.426684	INQUIRY #:	7647153.2s
		DATE:	May 09, 2024 12:33 pm

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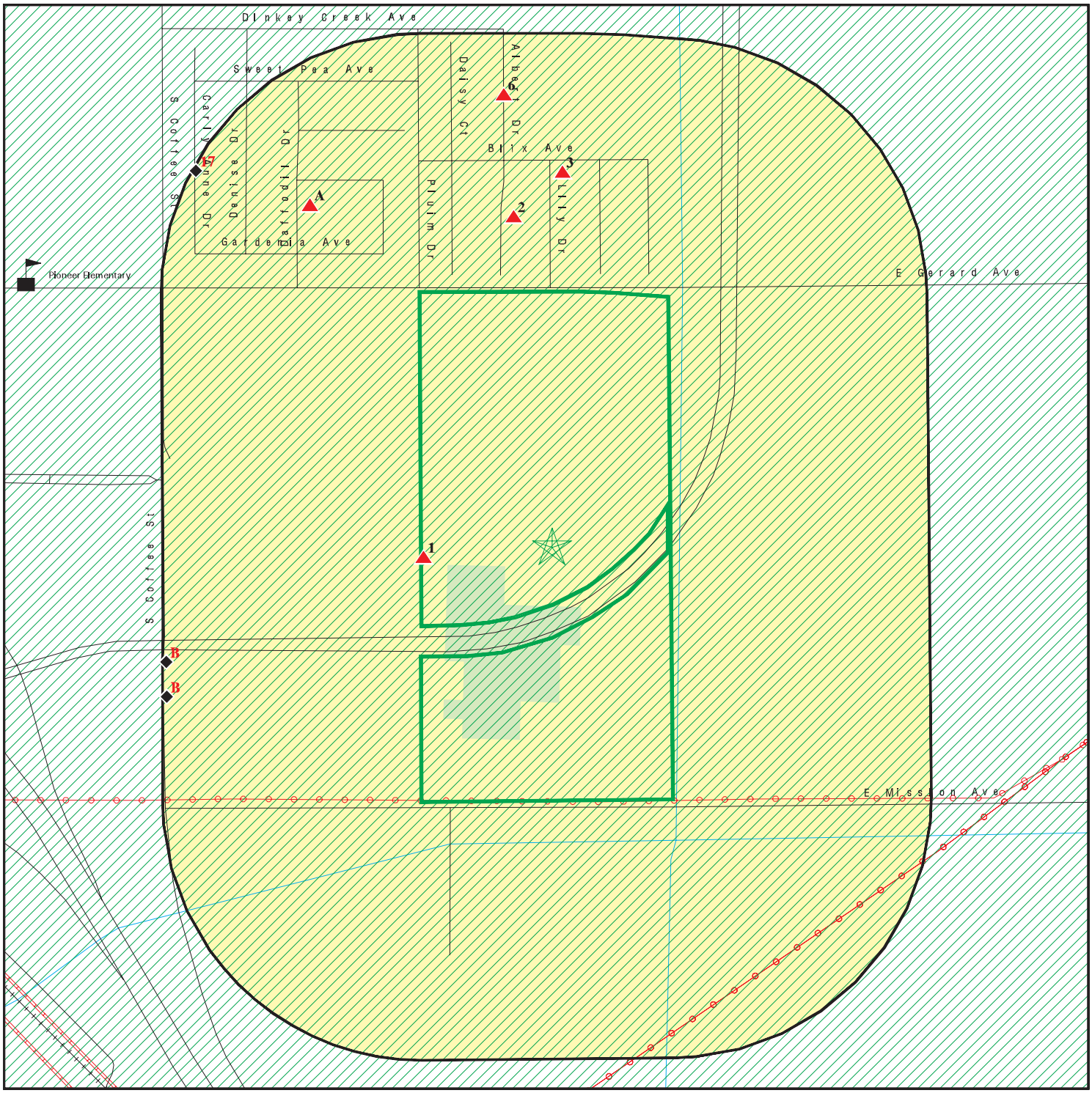
DETAIL MAP - 7647153.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	Campus Parkway Merced CA 95341	CONTACT:	Melanie L Thomas
LAT/LONG:	37.2769 / 120.426684	INQUIRY #:	7647153.2s
		DATE:	May 09, 2024 12:35 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	2	NR	2
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	1	2	NR	NR	3
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	1	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	2	NR	NR	NR	2
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	1	NR	NR	NR	1
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	2	NR	NR	NR	2
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	1	NR	1
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	1	0	NR	NR	1
CUPA Listings	0.250		2	8	NR	NR	NR	10
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWTS	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		1	NR	NR	NR	NR	1
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		1	NR	NR	NR	NR	1
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	4	16	2	3	0	25

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 **MERCED GATEWAY** **NPDES** **S123405566**
NORTHEAST OF MISSION AVE & COFFEE ST AND SOUTHWEST OF GERARD **CIWQS** **N/A**
< 1/8 **MERCED, CA 95341**
1 ft.

Relative: Higher
Actual: 184 ft.

NPDES:

Name:	MERCED GATEWAY
Address:	NORTHEAST OF MISSION AVE & COFFEE ST AND SOUTHWEST OF GERARD
City,State,Zip:	MERCED, CA 95341
Facility Status:	Not reported
NPDES Number:	Not reported
Region:	Not reported
Agency Number:	Not reported
Regulatory Measure ID:	Not reported
Place ID:	Not reported
Order Number:	Not reported
WDID:	5F24C386005
Regulatory Measure Type:	Construction
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Discharge Address:	Not reported
Discharge Name:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Status:	Terminated
Status Date:	11/19/2020
Operator Name:	Gateway Park Development Partners LLC
Operator Address:	133 Old Wards Ferry Rd
Operator City:	Sonora
Operator State:	California
Operator Zip:	95370

CIWQS:

Name:	MERCED GATEWAY
Address:	NORTHEAST OF MISSION AVE & COFFEE ST AND SOUTHWEST OF GERARD
City,State,Zip:	MERCED, CA 95341
Agency:	Gateway Park Development Partners LLC
Agency Address:	133 Old Wards Ferry Rd Suite G, Sonora, CA 95370
Place/Project Type:	Construction - Commercial
SIC/NAICS:	Not reported
Region:	5F
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	5F24C386005
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	02/11/2019
Termination Date:	11/17/2020
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported

MERCED GATEWAY (Continued) **S123405566**

Enforcement Actions within 5 years: 0
Violations within 5 years: 0
Latitude: 37.276736
Longitude: -120.428938

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2 **KARN ICE CREAM (6DBR451) (CLOSED)** **CUPA Listings** **S131559335**
North **448 AZALEA CT.** **N/A**
< 1/8 **MERCED, CA 95341**
0.073 mi.
385 ft.

Relative: CUPA MERCED:
Higher

Actual: Name: KARN ICE CREAM (6DBR451) (CLOSED)
186 ft. Address: 448 AZALEA CT.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009313
Region: MERCED
Program/Element: 0142 - 0142 MOBILE FOOD FACILITY - BASIC CART
Record Id: PR0019783
Billing Status Code: 02
Billing Status: 02 Inactive, non billable
Designated Employee: Loreina Childress
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: 448 Azalea Ct
Contact Name: Sharnbir Singh
Account ID: AR0019471
Phone Number: 7076556136

Name: KARN ICE CREAM (6DBR451) (CLOSED)
Address: 448 AZALEA CT.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009313
Region: MERCED
Program/Element: 0142 - 0142 MOBILE FOOD FACILITY - BASIC CART
Record Id: PR0019783
Billing Status Code: 02
Billing Status: 02 Inactive, non-billable
Designated Employee: Loreina Childress
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: 448 Azalea Ct
Contact Name: Sharnbir Singh
Account ID: AR0019471
Phone Number: 7076556136

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3 **A. S. ICE CREAM (5P24449)** **CUPA Listings** **S131559259**
North **408 LILY DR.** **N/A**
< 1/8 **MERCED, CA 95341**
0.116 mi.
613 ft.

Relative: CUPA MERCED:
Higher

Actual: Name: A. S. ICE CREAM (5P24449)
186 ft. Address: 408 LILY DR.
City,State,Zip: MERCED, CA 95341

A. S. ICE CREAM (5P24449) (Continued) **S131559259**

Facility Id:	FA0009214
Region:	MERCED
Program/Element:	0142 - 0142 MOBILE FOOD FACILITY - BASIC CART
Record Id:	PR0019653
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Loreina Childress
Current Inspection Date:	03/16/2023
Prior Inspection Date:	01/19/2022
Mailing Address:	408 Lily Dr
Contact Name:	Sanghuera Avtar Singh
Account ID:	AR0019252
Phone Number:	8319058208

A4 **ACCIO TREATS - (TFF)** **CUPA Listings** **S131559554**
NW **440 DAFFODIL DR.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.136 mi.
716 ft. **Site 1 of 2 in cluster A**

Relative: CUPA MERCED:
Higher

Name:	ACCIO TREATS - (TFF)
Address:	440 DAFFODIL DR.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009606
Region:	MERCED
Program/Element:	0159 - 0159 TEMP FF - LOW RISK ANNUAL FEE
Record Id:	PR0020451
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Richard Her
Current Inspection Date:	12/31/2099
Prior Inspection Date:	Not reported
Mailing Address:	440 Daffodil Dr.
Contact Name:	Megan DeCosta
Account ID:	AR0020187
Phone Number:	2096288366

Actual:
184 ft.

A5 **ACCIO TREATS** **CUPA Listings** **S131559739**
NW **440 DAFFODIL DR.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.136 mi.
716 ft. **Site 2 of 2 in cluster A**

Relative: CUPA MERCED:
Higher

Name:	ACCIO TREATS
Address:	440 DAFFODIL DR.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0010006
Region:	MERCED
Program/Element:	0170 - 0170 COTTAGE FOOD OPERATION CLASS A CFO
Record Id:	PR0022153
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Richard Her
Current Inspection Date:	12/31/2099

Actual:
184 ft.

ACCIO TREATS (Continued) **S131559739**

Prior Inspection Date: Not reported
Mailing Address: 440 Daffodil Dr.
Contact Name: Megan DeCosta
Account ID: AR0020937
Phone Number: 2096288366

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6 **AT&T CORP. - UG1VJ (CLOSED)** **CUPA Listings** **S124446047**
North **2800 ALBERT DR.** **N/A**
1/8-1/4 **MERCED, CA 95340**
0.191 mi.
1009 ft.

Relative:
Higher

Actual:
186 ft.

CUPA MERCED:
Name: AT&T CORP. - UG1VJ (CLOSED)
Address: 2800 ALBERT DR.
City,State,Zip: MERCED, CA 95340
Facility Id: FA0009125
Region: MERCED
Program/Element: 2404 - 2404 STATE SURCHARGE FEE PER REG. FACILITY
Record Id: PR0019431
Billing Status Code: 02
Billing Status: 02 Inactive, non billable
Designated Employee: Kelly Ornellas
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: 308 S. Akard St., 17th Floor
Contact Name: Not reported
Account ID: AR0019021
Phone Number: 8005669347

Name: AT&T CORP. - UG1VJ (CLOSED)
Address: 2800 ALBERT DR.
City,State,Zip: MERCED, CA 95340
Facility Id: FA0009125
Region: MERCED
Program/Element: 2404 - 2404 STATE SURCHARGE FEE PER REG. FACILITY
Record Id: PR0019431
Billing Status Code: 02
Billing Status: 02 Inactive, non-billable
Designated Employee: Kelly Ornellas
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: 308 S. Akard St., 17th Floor
Contact Name: Not reported
Account ID: AR0019021
Phone Number: 8005669347

Name: AT&T CORP. - UG1VJ (CLOSED)
Address: 2800 ALBERT DR.
City,State,Zip: MERCED, CA 95340
Facility Id: FA0009125
Region: MERCED
Program/Element: 2408 - 2408 STATE SURCHARGE - CERS NEXTGEN
Record Id: PR0021689
Billing Status Code: 02
Billing Status: 02 Inactive, non billable
Designated Employee: (none)
Current Inspection Date: Not reported

AT&T CORP. - UG1VJ (CLOSED) (Continued) **S124446047**

Prior Inspection Date: Not reported
Mailing Address: 308 S. Akard St., 17th Floor
Contact Name: Not reported
Account ID: AR0019021
Phone Number: 8005669347

Name: AT&T CORP. - UG1VJ (CLOSED)
Address: 2800 ALBERT DR.
City,State,Zip: MERCED, CA 95340
Facility Id: FA0009125
Region: MERCED
Program/Element: 2408 - 2408 STATE SURCHARGE - CERS NEXTGEN
Record Id: PR0021689
Billing Status Code: 02
Billing Status: 02 Inactive, non-billable
Designated Employee: (none)
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: 308 S. Akard St., 17th Floor
Contact Name: Not reported
Account ID: AR0019021
Phone Number: 8005669347

Name: AT&T CORP. - UG1VJ (CLOSED)
Address: 2800 ALBERT DR.
City,State,Zip: MERCED, CA 95340
Facility Id: FA0009125
Region: MERCED
Program/Element: 2501 - 2501 HAZ MAT STORAGE PERMIT 1-5 CHEMICALS
Record Id: PR0019430
Billing Status Code: 02
Billing Status: 02 Inactive, non billable
Designated Employee: Kelly Ornellas
Current Inspection Date: 02/18/2023
Prior Inspection Date: 02/18/2020
Mailing Address: 308 S. Akard St., 17th Floor
Contact Name: AT&T EH&S Hotline - Option #1
Account ID: AR0019021
Phone Number: 8005669347

Name: AT&T CORP. - UG1VJ (CLOSED)
Address: 2800 ALBERT DR.
City,State,Zip: MERCED, CA 95340
Facility Id: FA0009125
Region: MERCED
Program/Element: 2501 - 2501 HAZ MAT STORAGE PERMIT 1-5 CHEMICALS
Record Id: PR0019430
Billing Status Code: 02
Billing Status: 02 Inactive, non-billable
Designated Employee: Kelly Ornellas
Current Inspection Date: 02/18/2023
Prior Inspection Date: 02/18/2020
Mailing Address: 308 S. Akard St., 17th Floor
Contact Name: AT&T EH&S Hotline - Option #1
Account ID: AR0019021
Phone Number: 8005669347

B7 **TRACTOR SUPPLY COMPANY** **CUPA Listings** **S131559628**
WSW **882 S. COFFEE ST.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.245 mi.
1295 ft. **Site 1 of 10 in cluster B**

Relative: **Lower**

Actual: **182 ft.**

CUPA MERCED:

Name:	TRACTOR SUPPLY COMPANY
Address:	882 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009856
Region:	MERCED
Program/Element:	2301 - 2301 SMALL QTY. GENERATOR UP TO 2,199 LBS/MO.
Record Id:	PR0021875
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Gabriela GarciaMejia
Current Inspection Date:	09/07/2025
Prior Inspection Date:	09/07/2022
Mailing Address:	5401 Virginia Way
Contact Name:	Not reported
Account ID:	AR0020514
Phone Number:	Not reported

Name:	TRACTOR SUPPLY COMPANY
Address:	882 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009856
Region:	MERCED
Program/Element:	2408 - 2408 STATE SURCHARGE - CERS NEXTGEN
Record Id:	PR0021876
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	(none)
Current Inspection Date:	Not reported
Prior Inspection Date:	Not reported
Mailing Address:	5401 Virginia Way
Contact Name:	Not reported
Account ID:	AR0020514
Phone Number:	Not reported

Name:	TRACTOR SUPPLY COMPANY
Address:	882 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009856
Region:	MERCED
Program/Element:	2502 - 2502 HAZ MAT STOR 1-5 CHEM. LG VOL/HG RISK
Record Id:	PR0021874
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Gabriela GarciaMejia
Current Inspection Date:	09/07/2025
Prior Inspection Date:	09/07/2022
Mailing Address:	5401 Virginia Way
Contact Name:	Taylor Parker
Account ID:	AR0020514
Phone Number:	Not reported

B8 **TRACTOR SUPPLY COMPANY #2600** **RCRA NonGen / NLR** **1027217789**
WSW **882 S COFFEE ST** **CAL000469640**
1/8-1/4 **MERCED, CA 95341**
0.245 mi.
1295 ft. **Site 2 of 10 in cluster B**

Relative: **Lower**
Actual: **182 ft.**

RCRA Listings:

Date Form Received by Agency:	20220401
Handler Name:	Tractor Supply Company #2600
Handler Address:	882 S COFFEE ST
Handler City,State,Zip:	MERCED, CA 95341
EPA ID:	CAL000469640
Contact Name:	PAT PERRY WERNEIWSKI
Contact Address:	5401 VIRGINIA WAY
Contact City,State,Zip:	BRENTWOOD, TN 37027
Contact Telephone:	612-210-7176
Contact Fax:	615-484-4682
Contact Email:	HAZMAT@TRACTORSUPPLY.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	5401 VIRGINIA WAY
Mailing City,State,Zip:	BRENTWOOD, TN 37027
Owner Name:	Tractor Supply Company
Owner Type:	Other
Operator Name:	Pat Perry Werneiwski
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

TRACTOR SUPPLY COMPANY #2600 (Continued) **1027217789**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220418
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: TRACTOR SUPPLY COMPANY	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	5401 VIRGINIA WAY
Owner/Operator City,State,Zip:	BRENTWOOD, TN 37027
Owner/Operator Telephone:	612-210-7176
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: PAT PERRY WERNEIWSKI	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	5401 VIRGINIA WAY
Owner/Operator City,State,Zip:	BRENTWOOD, TN 37027
Owner/Operator Telephone:	612-210-7176
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20220401
Handler Name: TRACTOR SUPPLY COMPANY #2600	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

TRACTOR SUPPLY COMPANY #2600 (Continued) **1027217789**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B9 **TRACTOR SUPPLY COMPANY** **CUPA Listings** **S131559703**
WSW **882 S. COFFEE ST.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.245 mi.
1295 ft. **Site 3 of 10 in cluster B**

Relative: **Lower**
Actual: **182 ft.**

CUPA MERCED:
Name: TRACTOR SUPPLY COMPANY
Address: 882 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009961
Region: MERCED
Program/Element: 0109 - 0109 RETAIL MARKET<300 SQ FT/PREPK NPHF (HM2)
Record Id: PR0022071
Billing Status Code: 01
Billing Status: 01 Active, billable
Designated Employee: Neriman Akkoc
Current Inspection Date: 08/15/2024
Prior Inspection Date: 06/15/2023
Mailing Address: 5401 Virginia Way
Contact Name: Cesar
Account ID: AR0020776
Phone Number: Not reported

B10 **TRACTOR SUPPLY COMPANY STORE #2600 - MERCED** **CERS HAZ WASTE** **S128386069**
WSW **882 S COFFEE ST** **HWTS** **N/A**
1/8-1/4 **MERCED, CA 95341** **CERS**
0.245 mi.
1295 ft. **Site 4 of 10 in cluster B**

Relative: **Lower**
Actual: **182 ft.**

CERS HAZ WASTE:
Name: TRACTOR SUPPLY COMPANY STORE #2600 - MERCED
Address: 882 S COFFEE ST
City,State,Zip: MERCED, CA 95341
Site ID: 613108
CERS ID: 10897864
CERS Description: Hazardous Waste Generator

HWTS:
Name: TRACTOR SUPPLY COMPANY #2600
Address: 882 S COFFEE ST
Address 2: Not reported
City,State,Zip: MERCED, CA 95341

TRACTOR SUPPLY COMPANY STORE #2600 - MERCED (Continued) **S128386069**

EPA ID:	CAL000469640
Inactive Date:	Not reported
Create Date:	04/01/2022
Last Act Date:	09/28/2023
Mailing Name:	Not reported
Mailing Address:	5401 VIRGINIA WAY
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BRENTWOOD, TN
Owner Name:	TRACTOR SUPPLY COMPANY
Owner Address:	5401 VIRGINIA WAY
Owner Address 2:	Not reported
Owner City,State,Zip:	BRENTWOOD, TN 370270000
Owner Phone:	6154404000
Owner Fax:	Not reported
Contact Name:	RYAN ZICK
Contact Address:	5401 VIRGINIA WAY
Contact Address 2:	Not reported
City,State,Zip:	BRENTWOOD, TN 370277536
Contact Phone:	6154404278
Contact Fax:	6154844278
Facility Status:	Not reported
Facility Type:	Not reported
Category:	Not reported
Latitude:	Not reported
Longitude:	Not reported

CERS:

Name:	TRACTOR SUPPLY COMPANY STORE #2600 - MERCED
Address:	882 S COFFEE ST
City,State,Zip:	MERCED, CA 95341
Site ID:	613108
CERS ID:	10897864
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	09-07-2022
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Triennial SQG hazardous waste inspection conducted on September 7, 2022.
Eval Division:	Merced County Environmental Health
Eval Program:	HW
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	09-07-2022
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Triennial HMBP inspection conducted on September 7, 2022. Reminder: The annual electronic HMBP submittal on the CERS website is due between January 1st and March 1st.
Eval Division:	Merced County Environmental Health
Eval Program:	HMRRP
Eval Source:	CERS,

TRACTOR SUPPLY COMPANY STORE #2600 - MERCED (Continued) **S128386069**

Affiliation:

Affiliation Type Desc:	CUPA District
Entity Name:	Merced County Env Health
Entity Title:	Not reported
Affiliation Address:	2222 M St
Affiliation City:	Merced
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95340
Affiliation Phone:	(209) 381-1100,

Affiliation Type Desc:	Document Preparer
Entity Name:	APTIM
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	5401 Virginia Way
Affiliation City:	Brentwood
Affiliation State:	TN
Affiliation Country:	Not reported
Affiliation Zip:	37027
Affiliation Phone:	,

Affiliation Type Desc:	Legal Owner
Entity Name:	TRACTOR SUPPLY COMPANY
Entity Title:	Not reported
Affiliation Address:	5401 Virginia Way
Affiliation City:	Brentwood
Affiliation State:	TN
Affiliation Country:	United States
Affiliation Zip:	37027
Affiliation Phone:	(615) 440-4000,

Affiliation Type Desc:	Environmental Contact
Entity Name:	Ryan Zick
Entity Title:	Not reported
Affiliation Address:	5401 Virginia Way
Affiliation City:	Brentwood
Affiliation State:	TN
Affiliation Country:	Not reported
Affiliation Zip:	37027
Affiliation Phone:	,

Affiliation Type Desc:	Parent Corporation
Entity Name:	TRACTOR SUPPLY COMPANY
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported

TRACTOR SUPPLY COMPANY STORE #2600 - MERCED (Continued) **S128386069**

Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Identification Signer
Entity Name:	Ryan Zick
Entity Title:	Manager, Environmental Strategy and Compliance
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Operator
Entity Name:	TRACTOR SUPPLY COMPANY
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(615) 440-4000,

B11 **STARBUCKS COFFEE COMPANY** **CUPA Listings** **S131559749**
WSW **856 S. COFFEE ST.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.246 mi.
1297 ft. **Site 5 of 10 in cluster B**

Relative: **Lower**

Actual: **182 ft.**

CUPA MERCED:

Name:	STARBUCKS COFFEE COMPANY
Address:	856 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0010016
Region:	MERCED
Program/Element:	0101 - 0101 FOOD ESTAB. W/FOOD PREP 0-49 SEATS (HM4)
Record Id:	PR0022167
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Neriman Akkoc
Current Inspection Date:	10/24/2024
Prior Inspection Date:	09/28/2023
Mailing Address:	PO Box 34442, S-Tax 2
Contact Name:	Tina Garcia
Account ID:	AR0020970
Phone Number:	Not reported

B12 **BP 07124** **RCRA NonGen / NLR** **1026492911**
WSW **810 S COFFEE ST** **CAL000457712**
1/8-1/4 **MERCED, CA 95341**
0.246 mi.
1299 ft. **Site 6 of 10 in cluster B**

Relative: **Lower**
Actual: **182 ft.**

RCRA Listings:

Date Form Received by Agency:	20201026
Handler Name:	Bp 07124
Handler Address:	810 S COFFEE ST
Handler City,State,Zip:	MERCED, CA 95341
EPA ID:	CAL000457712
Contact Name:	KIMBERLY MEDICUS
Contact Address:	PO BOX 6038
Contact City,State,Zip:	ARTESIA, CA 90702
Contact Telephone:	360-970-2296
Contact Fax:	Not reported
Contact Email:	KIMBERLY.MEDICUS@BP.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	PO BOX 80249
Mailing City,State,Zip:	RANCHO SANTA MARGARITA, CA 92688
Owner Name:	Bp Products North America
Owner Type:	Other
Operator Name:	Kimberly Medicus
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

BP 07124 (Continued) **1026492911**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20201026
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: KIMBERLY MEDICUS	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	PO BOX 6038
Owner/Operator City,State,Zip:	ARTESIA, CA 90702
Owner/Operator Telephone:	360-970-2296
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: BP PRODUCTS NORTH AMERICA	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	PO BOX 6038
Owner/Operator City,State,Zip:	ARTESIA, CA 90702
Owner/Operator Telephone:	360-970-2296
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20201026
Handler Name: BP 07124	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

BP 07124 (Continued) **1026492911**

List of NAICS Codes and Descriptions:
NAICS Code: 447190
NAICS Description: OTHER GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B13 **ARCO 07124** **CERS HAZ WASTE** **S127034884**
WSW **810 S COFFEE ST** **CERS TANKS** **N/A**
1/8-1/4 **MERCED, CA 95341** **CERS**
0.246 mi.
1299 ft. **Site 7 of 10 in cluster B**

Relative:
Lower

Actual:
182 ft.

CERS HAZ WASTE:
Name: ARCO 07124
Address: 810 S COFFEE ST
City,State,Zip: MERCED, CA 95341
Site ID: 569137
CERS ID: 10853863
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: ARCO 07124
Address: 810 S COFFEE ST
City,State,Zip: MERCED, CA 95341
Site ID: 569137
CERS ID: 10853863
CERS Description: Underground Storage Tank

CERS:
Name: ARCO 07124
Address: 810 S COFFEE ST
City,State,Zip: MERCED, CA 95341
Site ID: 569137
CERS ID: 10853863
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 569137
Site Name: ARCO 07124
Violation Date: 11-18-2021
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to submit or maintain a current facility plot plan.
Violation Notes: Returned to compliance on 12/01/2021. OBSERVATION: Owner/Operator did not maintain and/or submit a current facility plot plan. Locations of S1-S7 smart sensor locations were not included in the current facility plot plan. CORRECTIVE ACTION: Maintain and/or submit a current facility plot plan on or by the comply by date. 12/1/2021 - Updated UST Site Plan uploaded and submitted through CERS. Violation cleared. - KO
Violation Division: Merced County Environmental Health

ARCO 07124 (Continued) **S127034884**

Violation Program: UST
Violation Source: CERS,

Site ID: 569137
Site Name: ARCO 07124
Violation Date: 11-28-2023
Citation: HSC 6.7 25290.1(d) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(d)
Violation Description: Failure of a UST system installed on or after July 1, 2004 to be designed and constructed with a monitoring system capable of detecting the entry of the liquid or vapor-phase of the hazardous substance stored in the primary containment into the secondary containment and capable of detecting water intrusion into the secondary containment.
Violation Notes: Returned to compliance on 11/28/2023. OBSERVATION: Owner/Operator did not design and/or construct UST system with a monitoring system capable of detecting the entry of the liquid or vapor-phase of the hazardous substance stored in the primary containment into the secondary containment, and/or water intrusion into the secondary containment. Liquid was observed in the 87, 91 and diesel fill sumps, the 87 STP sump, and UDC 3/4. The technician removed the liquid at the time of inspection. CORRECTIVE ACTION: This violation was corrected on site.
Violation Division: Merced County Environmental Health
Violation Program: UST
Violation Source: CERS,

Site ID: 569137
Site Name: ARCO 07124
Violation Date: 11-28-2023
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 11/28/2023. OBSERVATION: Current approved copies of the monitoring plan was not found onsite. CORRECTIVE ACTION: Maintain a copy of the current and approved monitoring plan on-site. if the plan is not current update the plan in CERS and submit for review by the CUPA. Upon acceptable review maintain a copy of the approved monitoring plan on-site. RETURN TO COMPLIANCE: Photo proof that a copy of a current and updated monitoring plan was on site was received via text from Fredy Barrita (949-293-0406) with Belshire.
Violation Division: Merced County Environmental Health
Violation Program: UST
Violation Source: CERS,

Site ID: 569137
Site Name: ARCO 07124
Violation Date: 11-28-2023
Citation: HSC 6.7 25292.2(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.2(a)
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.
Violation Notes: OBSERVATION: Financial responsibility documents have not been submitted to the CUPA. Current financial responsibility documents are required to be submitted annually and maintained on site. The certification of financial responsibility does not list the facility address for this site. CORRECTIVE ACTION: Complete and submit a copy of the financial responsibility by 12/28/2023 and submit proof to the

ARCO 07124 (Continued) **S127034884**

CUPA that an accurate copy of the financial documents are on site.
Violation Division: Merced County Environmental Health
Violation Program: UST
Violation Source: CERS,

Site ID: 569137
Site Name: ARCO 07124
Violation Date: 11-28-2023
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 11/28/2023. OBSERVATION: Facility failed to submit a complete and accurate UST Monitoring Plan. The monitoring plan listed the panel as a TLS-350 PLUS but a TLS-350R was observed on site. CORRECTIVE ACTION: Submit a complete and accurate UST Monitoring Plan. RETURN TO COMPLIANCE: The monitoring plan was updated in CERS and submitted for review.
Violation Division: Merced County Environmental Health
Violation Program: UST
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-06-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Initial annual monitoring certification conducted on November 6, 2020 by Ghettler-Ryan.
Eval Division: Merced County Environmental Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-18-2021
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Routine triennial hazardous materials storage/business plan (HMBP) inspection conducted on November 18, 2021. NOTE: Electronic hazardous materials business plan submittals/re-certifications are due onto the California Environmental Reporting System (CERS) between January 1st and March 1st of every year.
Eval Division: Merced County Environmental Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-18-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Routine annual monitoring system certification inspection conducted on November 18, 2021. Testing Company: Gettler-Ryan
Eval Division: Merced County Environmental Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-22-2023

ARCO 07124 (Continued) **S127034884**

Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Inspection file prep.
Eval Division: Merced County Environmental Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-29-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Annual monitoring certification conducted on November 29, 2022 by Gettler-Ryan Inc.
Eval Division: Merced County Environmental Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-18-2021
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Routine triennial small quantity hazardous waste generator (SQG) inspection conducted on November 18, 2021.
Eval Division: Merced County Environmental Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 11-28-2023
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Reviewed CERS submittal and closed out 2 violations. 1 remains open at this time.
Eval Division: Merced County Environmental Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-28-2023
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: On site for the annual monitoring system certification (AMC). Testing Company: Gettler Ryan Tech: Darnell Smith
Eval Division: Merced County Environmental Health
Eval Program: UST
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: BELSHIRE ENVIRONMENTAL SERVICES, INC
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

ARCO 07124 (Continued) **S127034884**

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	PO BOX 6038
Affiliation City:	ARTESIA
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	90702
Affiliation Phone:	,

Affiliation Type Desc:	Legal Owner
Entity Name:	BP PRODUCTS NORTH AMERICA, INC
Entity Title:	Not reported
Affiliation Address:	PO BOX 6038
Affiliation City:	ARTESIA
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	90702
Affiliation Phone:	(360) 970-2296,

Affiliation Type Desc:	Operator
Entity Name:	STRAUCH MANAGEMENT LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(916) 294-9752,

Affiliation Type Desc:	Property Owner
Entity Name:	BP PRODUCTS NORTH AMERICA, INC
Entity Title:	Not reported
Affiliation Address:	PO BOX 6038
Affiliation City:	ARTESIA
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	90702
Affiliation Phone:	(360) 970-2296,

Affiliation Type Desc:	UST Tank Operator
Entity Name:	STRAUCH MANAGEMENT LLC
Entity Title:	Not reported
Affiliation Address:	810 S COFFEE ST
Affiliation City:	MERCED
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	95341
Affiliation Phone:	(916) 294-9752,

Affiliation Type Desc:	UST Tank Owner
Entity Name:	BP PRODUCTS NORTH AMERICA, INC
Entity Title:	Not reported
Affiliation Address:	PO BOX 6038
Affiliation City:	ARTESIA
Affiliation State:	CA
Affiliation Country:	United States

ARCO 07124 (Continued) **S127034884**

Affiliation Zip:	90702
Affiliation Phone:	(360) 970-2296,
Affiliation Type Desc:	CUPA District
Entity Name:	Merced County Env Health
Entity Title:	Not reported
Affiliation Address:	2222 M St
Affiliation City:	Merced
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	95340
Affiliation Phone:	(209) 381-1100,
Affiliation Type Desc:	Environmental Contact
Entity Name:	KIMBERLY MEDICUS
Entity Title:	Not reported
Affiliation Address:	PO BOX 6038
Affiliation City:	ARTESIA
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	90702
Affiliation Phone:	,
Affiliation Type Desc:	Identification Signer
Entity Name:	KIMBERLY MEDICUS
Entity Title:	HSSE&C ADVISOR
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Parent Corporation
Entity Name:	BP PRODUCTS NORTH AMERICA, INC.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	UST Property Owner Name
Entity Name:	BP PRODUCTS NORTH AMERICA, INC
Entity Title:	Not reported
Affiliation Address:	PO BOX 6038
Affiliation City:	ARTESIA
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	90702
Affiliation Phone:	(360) 970-2296,

B14 **ARCO AMPM 7124** **CUPA Listings** **S131559219**
WSW **810 S. COFFEE ST.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.246 mi.
1299 ft. **Site 8 of 10 in cluster B**

Relative: CUPA MERCED:
Lower

Actual: Name: ARCO AMPM 7124
182 ft. Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009160
Region: MERCED
Program/Element: 0101 - 0101 FOOD ESTAB. W/FOOD PREP 0-49 SEATS (HM4)
Record Id: PR0019962
Billing Status Code: 01
Billing Status: 01 Active, billable
Designated Employee: Neriman Akkoc
Current Inspection Date: 10/19/2023
Prior Inspection Date: 11/12/2021
Mailing Address: 193 Blue Ravine Rd., Suite 135
Contact Name: Marc Strauch
Account ID: AR0019663
Phone Number: 9162949752

Name: ARCO AMPM 7124
Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009160
Region: MERCED
Program/Element: 0110 - 0110 RETAIL MARKET<2000 SQ FT (HM3)
Record Id: PR0019963
Billing Status Code: 01
Billing Status: 01 Active, billable
Designated Employee: Neriman Akkoc
Current Inspection Date: 10/19/2023
Prior Inspection Date: 11/12/2021
Mailing Address: 193 Blue Ravine Rd., Suite 135
Contact Name: Marc Strauch
Account ID: AR0019663
Phone Number: 9162949752

Name: ARCO AMPM 7124
Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009160
Region: MERCED
Program/Element: 0156 - 0156 FOOD PLAN CHECK-PP PHF/UNPACK/PREP 7 HRS
Record Id: PR0019488
Billing Status Code: 02
Billing Status: 02 Inactive, non billable
Designated Employee: Lao Yang
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: 193 Blue Ravine Rd., Suite 135
Contact Name: Not reported
Account ID: AR0019663
Phone Number: 9162949752

Name: ARCO AMPM 7124

ARCO AMPM 7124 (Continued) **S131559219**

Address:	810 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009160
Region:	MERCED
Program/Element:	0156 - 0156 FOOD PLAN CHECK-PP PHF/UNPACK/PREP 7 HRS
Record Id:	PR0019488
Billing Status Code:	02
Billing Status:	02 Inactive, non-billable
Designated Employee:	Lao Yang
Current Inspection Date:	Not reported
Prior Inspection Date:	Not reported
Mailing Address:	193 Blue Ravine Rd., Suite 135
Contact Name:	Not reported
Account ID:	AR0019663
Phone Number:	9162949752

B15 **ARCO 07124** **UST** **U004331063**
WSW **810 S COFFEE ST** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.246 mi.
1299 ft. **Site 9 of 10 in cluster B**

Relative: UST:
Lower

Actual:
182 ft.

Name:	ARCO 07124
Address:	810 S COFFEE ST
City,State,Zip:	MERCED, CA 95341
Facility ID:	Not reported
Permitting Agency:	Merced County Environmental Health
CERSID:	Not reported
Latitude:	37.276
Longitude:	-120.4328
Owner type:	Not reported
Facility type:	Not reported
Num of inuse ust:	Not reported
Num of closed ust:	Not reported
Num of oos ust:	Not reported
Epa region:	Not reported
Tribal lands:	Not reported
Tank owner name:	Not reported
Tank owner mailing address:	Not reported
Tank owner mailing city:	Not reported
Tank owner mailing zip:	Not reported
Tank owner mailing state:	Not reported
Tank operator name:	Not reported
Tank operator mailing address:	Not reported
Tank operator mailing city:	Not reported
Tank operator mailing zip:	Not reported
Tank operator mailing state:	Not reported
Tankidnumber:	Not reported
Tank status:	Not reported
Tank configuration:	Not reported
Tank closure date:	Not reported
Tank installation date:	Not reported
Tank num of compartments:	Not reported
Tank contents:	Not reported
Tank capacity gallons:	Not reported
Tank type:	Not reported
Tank pc construction:	Not reported

ARCO 07124 (Continued) **U004331063**

Tank pwpiping construction:	Not reported
Tank piping type:	Not reported
Tank piping construction:	Not reported
Tank sacrificial anode:	Not reported
Tank cp impressed current:	Not reported
Tank cp shutoff:	Not reported
Tank alarms:	Not reported
Tank ball float:	Not reported
Tank spill bucket:	Not reported

Name:	ARCO 07124
Address:	810 S COFFEE ST
City,State,Zip:	MERCED, CA 95341
Facility ID:	Not reported
Permitting Agency:	Merced County Environmental Health
CERSID:	Not reported
Latitude:	37.2760000
Longitude:	-120.432800
Owner type:	Not reported
Facility type:	Not reported
Num of inuse ust:	Not reported
Num of closed ust:	Not reported
Num of oos ust:	Not reported
Epa region:	Not reported
Tribal lands:	Not reported
Tank owner name:	Not reported
Tank owner mailing address:	Not reported
Tank owner mailing city:	Not reported
Tank owner mailing zip:	Not reported
Tank owner mailing state:	Not reported
Tank operator name:	Not reported
Tank operator mailing address:	Not reported
Tank operator mailing city:	Not reported
Tank operator mailing zip:	Not reported
Tank operator mailing state:	Not reported
Tankidnumber:	Not reported
Tank status:	Not reported
Tank configuration:	Not reported
Tank closure date:	Not reported
Tank installation date:	Not reported
Tank num of compartments:	Not reported
Tank contents:	Not reported
Tank capacity gallons:	Not reported
Tank type:	Not reported
Tank pc construction:	Not reported
Tank pwpiping construction:	Not reported
Tank piping type:	Not reported
Tank piping construction:	Not reported
Tank sacrificial anode:	Not reported
Tank cp impressed current:	Not reported
Tank cp shutoff:	Not reported
Tank alarms:	Not reported
Tank ball float:	Not reported
Tank spill bucket:	Not reported

Name:	ARCO 07124
Address:	810 S COFFEE ST

ARCO 07124 (Continued) **U004331063**

City,State,Zip:	MERCED, CA 95341
Facility ID:	Not reported
Permitting Agency:	Merced County Environmental Health
CERSID:	10853863
Latitude:	37.2760000
Longitude:	-120.432800
Owner type:	Non-Government
Facility type:	Motor Vehicle Fueling
Num of inuse ust:	Not reported
Num of closed ust:	0
Num of oos ust:	0
Epa region:	9
Tribal lands:	No
Tank owner name:	BP PRODUCTS NORTH AMERICA, INC
Tank owner mailing address:	PO BOX 6038
Tank owner mailing city:	ARTESIA
Tank owner mailing zip:	90702
Tank owner mailing state:	CA
Tank operator name:	STRAUCH MANAGEMENT LLC
Tank operator mailing address:	810 S COFFEE ST
Tank operator mailing city:	MERCED
Tank operator mailing zip:	95341
Tank operator mailing state:	CA
Tankidnumber:	2
Tank status:	Confirmed/Updated Information
Tank configuration:	One in a Compartmented Unit
Tank closure date:	Not reported
Tank installation date:	7/6/2020 12:00:00 AM
Tank num of compartments:	2
Tank contents:	Premium Unleaded
Tank capacity gallons:	12000
Tank type:	Double Wall
Tank pc construction:	Fiberglass
Tank pwpiping construction:	Fiberglass
Tank piping type:	Pressure
Tank piping construction:	Double Walled
Tank sacrificial anode:	No
Tank cp impressed current:	No
Tank cp shutoff:	Yes
Tank alarms:	No
Tank ball float:	No
Tank spill bucket:	Yes

Name:	ARCO 07124
Address:	810 S COFFEE ST
City,State,Zip:	MERCED, CA 95341
Facility ID:	Not reported
Permitting Agency:	Merced County Environmental Health
CERSID:	10853863
Latitude:	37.2760000
Longitude:	-120.432800
Owner type:	Non-Government
Facility type:	Motor Vehicle Fueling
Num of inuse ust:	Not reported
Num of closed ust:	0
Num of oos ust:	0
Epa region:	9

ARCO 07124 (Continued) **U004331063**

Tribal lands:	No
Tank owner name:	BP PRODUCTS NORTH AMERICA, INC
Tank owner mailing address:	PO BOX 6038
Tank owner mailing city:	ARTESIA
Tank owner mailing zip:	90702
Tank owner mailing state:	CA
Tank operator name:	STRAUCH MANAGEMENT LLC
Tank operator mailing address:	810 S COFFEE ST
Tank operator mailing city:	MERCED
Tank operator mailing zip:	95341
Tank operator mailing state:	CA
Tankidnumber:	1
Tank status:	Confirmed/Updated Information
Tank configuration:	Stand Alone Tank
Tank closure date:	Not reported
Tank installation date:	7/6/2020 12:00:00 AM
Tank num of compartments:	1
Tank contents:	Regular Unleaded
Tank capacity gallons:	25000
Tank type:	Double Wall
Tank pc construction:	Fiberglass
Tank pwpiping construction:	Fiberglass
Tank piping type:	Pressure
Tank piping construction:	Double Walled
Tank sacrificial anode:	No
Tank cp impressed current:	No
Tank cp shutoff:	Yes
Tank alarms:	No
Tank ball float:	No
Tank spill bucket:	Yes

Name:	ARCO 07124
Address:	810 S COFFEE ST
City,State,Zip:	MERCED, CA 95341
Facility ID:	Not reported
Permitting Agency:	Merced County Environmental Health
CERSID:	10853863
Latitude:	37.2760000
Longitude:	-120.432800
Owner type:	Non-Government
Facility type:	Motor Vehicle Fueling
Num of inuse ust:	Not reported
Num of closed ust:	0
Num of oos ust:	0
Epa region:	9
Tribal lands:	No
Tank owner name:	BP PRODUCTS NORTH AMERICA, INC
Tank owner mailing address:	PO BOX 6038
Tank owner mailing city:	ARTESIA
Tank owner mailing zip:	90702
Tank owner mailing state:	CA
Tank operator name:	STRAUCH MANAGEMENT LLC
Tank operator mailing address:	810 S COFFEE ST
Tank operator mailing city:	MERCED
Tank operator mailing zip:	95341
Tank operator mailing state:	CA
Tankidnumber:	3

ARCO 07124 (Continued) **U004331063**

Tank status:	Confirmed/Updated Information
Tank configuration:	One in a Compartmented Unit
Tank closure date:	Not reported
Tank installation date:	7/6/2020 12:00:00 AM
Tank num of compartments:	2
Tank contents:	Diesel
Tank capacity gallons:	10000
Tank type:	Double Wall
Tank pc construction:	Fiberglass
Tank pwpiping construction:	Fiberglass
Tank piping type:	Pressure
Tank piping construction:	Double Walled
Tank sacrificial anode:	No
Tank cp impressed current:	No
Tank cp shutoff:	Yes
Tank alarms:	No
Tank ball float:	No
Tank spill bucket:	Yes

B16 **ARCO 07124** **CUPA Listings** **S131559390**
WSW **810 S. COFFEE ST.** **N/A**
1/8-1/4 **MERCED, CA 95341**
0.246 mi.
1299 ft. **Site 10 of 10 in cluster B**

Relative: **Lower**

Actual: **182 ft.**

CUPA MERCED:

Name:	ARCO 07124
Address:	810 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009384
Region:	MERCED
Program/Element:	2201 - 2201 UST GREATER THAN 3,000 GAL. VOLUME TOTAL
Record Id:	PR0019957
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Gabriela GarciaMejia
Current Inspection Date:	11/29/2023
Prior Inspection Date:	11/29/2022
Mailing Address:	PO Box 6038
Contact Name:	Not reported
Account ID:	AR0019661
Phone Number:	9257555053

Name:	ARCO 07124
Address:	810 S. COFFEE ST.
City,State,Zip:	MERCED, CA 95341
Facility Id:	FA0009384
Region:	MERCED
Program/Element:	2301 - 2301 SMALL QTY. GENERATOR UP TO 2,199 LBS/MO.
Record Id:	PR0019958
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Gabriela GarciaMejia
Current Inspection Date:	11/18/2024
Prior Inspection Date:	11/18/2021
Mailing Address:	PO Box 6038
Contact Name:	Not reported
Account ID:	AR0019661

ARCO 07124 (Continued) **S131559390**

Phone Number: 9257555053

Name: ARCO 07124
Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009384
Region: MERCED
Program/Element: 2404 - 2404 STATE SURCHARGE FEE PER REG. FACILITY
Record Id: PR0019960
Billing Status Code: 02
Billing Status: 02 Inactive, non billable
Designated Employee: Kelly Ornellas
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: PO Box 6038
Contact Name: Not reported
Account ID: AR0019661
Phone Number: 9257555053

Name: ARCO 07124
Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009384
Region: MERCED
Program/Element: 2404 - 2404 STATE SURCHARGE FEE PER REG. FACILITY
Record Id: PR0019960
Billing Status Code: 02
Billing Status: 02 Inactive, non-billable
Designated Employee: Kelly Ornellas
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: PO Box 6038
Contact Name: Not reported
Account ID: AR0019661
Phone Number: 9257555053

Name: ARCO 07124
Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009384
Region: MERCED
Program/Element: 2408 - 2408 STATE SURCHARGE - CERS NEXTGEN
Record Id: PR0021754
Billing Status Code: 01
Billing Status: 01 Active, billable
Designated Employee: (none)
Current Inspection Date: Not reported
Prior Inspection Date: Not reported
Mailing Address: PO Box 6038
Contact Name: Not reported
Account ID: AR0019661
Phone Number: 9257555053

Name: ARCO 07124
Address: 810 S. COFFEE ST.
City,State,Zip: MERCED, CA 95341
Facility Id: FA0009384

ARCO 07124 (Continued) **S131559390**

Region:	MERCED
Program/Element:	2502 - 2502 HAZ MAT STOR 1-5 CHEM. LG VOL/HG RISK
Record Id:	PR0019959
Billing Status Code:	01
Billing Status:	01 Active, billable
Designated Employee:	Gabriela GarciaMejia
Current Inspection Date:	11/18/2024
Prior Inspection Date:	11/18/2021
Mailing Address:	PO Box 6038
Contact Name:	Not reported
Account ID:	AR0019661
Phone Number:	9257555053

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17 **PLUIM PROPERTY** **LUST** **S106859258**
NW **392 COFFEE** **Cortese** **N/A**
1/8-1/4 **MERCED, CA 95340** **CERS**
0.246 mi.
1300 ft.

Relative: **Lower**

Actual: **183 ft.**

LUST:

Name:	PLUIM PROPERTY
Address:	392 COFFEE
City,State,Zip:	MERCED, CA 95340
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5F)
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0604755452
Global Id:	T0604755452
Latitude:	37.2821573292126
Longitude:	-120.432935502972
Status:	Completed - Case Closed
Status Date:	08/07/2006
Case Worker:	WWG
RB Case Number:	5T24000560
Local Agency:	MERCED COUNTY
File Location:	Not reported
Local Case Number:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
EPA Region:	9
Coordinate Source:	Google Map Move
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	11/25/2002
Leak Reported Date:	11/22/2004
How Discovered:	Site Assessment/Site Investigation
How Discovered Description:	11/25/02 BACKHOE INVESTIGATION
Discharge Source:	Other
Discharge Cause:	Unknown
Stop Method:	Close and Remove Tank
Stop Description:	Not reported
No Further Action Date:	08/07/2006
CA Water Watershed Name:	San Joaquin Valley Floor - Merced (535.80)
Dwr Groundwater Subbasin Name:	San Joaquin Valley - Merced (5-022.04)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	86-90%
CA Enviroscreen 4 Score:	80-85%
Military DOD Site:	No
Facility Project Subtype:	Not reported

PLUIM PROPERTY (Continued) **S106859258**

RWQCB Region: CENTRAL VALLEY RWQCB (REGION 5F)
Site History: Not reported

LUST:
Global Id: T0604755452
Contact Type: Local Agency Caseworker
Contact Name: ERIC SWENSON
Organization Name: MERCED COUNTY
Address: 260 E. 15th Street
City: MERCED
Email: eh29@co.merced.ca.us
Phone Number: 2093811075

Global Id: T0604755452
Contact Type: Regional Board Caseworker - Primary Caseworker
Contact Name: WARREN GROSS
Organization Name: CENTRAL VALLEY RWQCB (REGION 5F)
Address: 1685 E STREET
City: FRESNO
Email: wgross@waterboards.ca.gov
Phone Number: Not reported

LUST:
Global Id: T0604755452
Action Type: Other
Date: 11/22/2004
Action: Leak Reported

Global Id: T0604755452
Action Type: RESPONSE
Date: 07/01/2005
Action: Other Report / Document

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 08/07/2006
Action: Closure/No Further Action Letter

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 04/15/2005
Action: Staff Letter

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 03/23/2006
Action: Site Visit / Inspection / Sampling

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 08/17/2005
Action: Site Visit / Inspection / Sampling

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 02/26/2009
Action: Staff Letter

PLUIM PROPERTY (Continued) **S106859258**

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 02/26/2009
Action: Staff Letter

Global Id: T0604755452
Action Type: RESPONSE
Date: 07/26/2005
Action: CAP/RAP - Other Report

Global Id: T0604755452
Action Type: RESPONSE
Date: 04/28/2006
Action: Request for Closure

Global Id: T0604755452
Action Type: REMEDIATION
Date: 05/15/2005
Action: Excavation

Global Id: T0604755452
Action Type: REMEDIATION
Date: 06/30/2005
Action: In Situ Physical/Chemical Treatment (other than SVE)

Global Id: T0604755452
Action Type: ENFORCEMENT
Date: 08/26/2005
Action: Notification - Preclosure

Global Id: T0604755452
Action Type: Other
Date: 11/25/2002
Action: Leak Discovery

LUST:
Global Id: T0604755452
Status: Open - Case Begin Date
Status Date: 11/25/2002

Global Id: T0604755452
Status: Open - Site Assessment
Status Date: 04/04/2005

Global Id: T0604755452
Status: Open - Remediation
Status Date: 07/26/2005

Global Id: T0604755452
Status: Completed - Case Closed
Status Date: 08/07/2006

LUST REG 5:
Name: PLUIM PROPERTY
Address: 392 COFFEE

PLUIM PROPERTY (Continued) **S106859258**

City: MERCED
Region: 5
Status: Case Closed
Case Number: 5T24000560
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: WWG
Lead Agency: Regional
Program: LUST
MTBE Code: N/A

CORTESE:
Name: PLUIM PROPERTY
Address: 392 COFFEE
City,State,Zip: MERCED, CA 95340
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0604755452
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

CERS:
Name: PLUIM PROPERTY
Address: 392 COFFEE
City,State,Zip: MERCED, CA 95340
Site ID: 752617
CERS ID: T0604755452
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: ERIC SWENSON - MERCED COUNTY
Entity Title: Not reported
Affiliation Address: 260 E. 15th Street
Affiliation City: MERCED
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 2093811075,

Affiliation Type Desc: Regional Board Caseworker

PLUIM PROPERTY (Continued) **S106859258**

Entity Name:	WARREN GROSS - CENTRAL VALLEY RWQCB (REGION 5F)
Entity Title:	Not reported
Affiliation Address:	1685 E STREET
Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

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18 SSW 1/4-1/2 0.456 mi. 2410 ft. **PRIVATE RESIDENCE** **LUST S110654662**
PRIVATE RESIDENCE **N/A**
MERCED, CA 95340

Relative: Lower
Actual: 182 ft.

LUST:

Name:	PRIVATE RESIDENCE
Address:	PRIVATE RESIDENCE
City,State,Zip:	MERCED, CA 95340
Lead Agency:	MERCED COUNTY
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0604784170
Global Id:	T0604784170
Latitude:	37.266771084
Longitude:	-120.430375
Status:	Completed - Case Closed
Status Date:	03/18/2011
Case Worker:	Not reported
RB Case Number:	5T24000538
Local Agency:	MERCED COUNTY
File Location:	Local Agency
Local Case Number:	24265
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
EPA Region:	9
Coordinate Source:	* Historical Geocode - Exact Address Match
Cuf Case:	YES
Quantity Released Gallons:	Not reported
Begin Date:	11/01/2000
Leak Reported Date:	10/07/2002
How Discovered:	Site Assessment/Site Investigation
How Discovered Description:	Not reported
Discharge Source:	Other
Discharge Cause:	Unknown
Stop Method:	Close and Remove Tank
Stop Description:	Not reported
No Further Action Date:	03/18/2011
CA Water Watershed Name:	San Joaquin Valley Floor - Merced (535.80)
Dwr Groundwater Subbasin Name:	San Joaquin Valley - Merced (5-022.04)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	66-70%
CA Enviroscreen 4 Score:	65-70%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	CENTRAL VALLEY RWQCB (REGION 5F)
Site History:	Site assessment work in support of the realignment of highway 99 carried out in 2000 identified petroleum contamination at this site.

PRIVATE RESIDENCE (Continued) **S110654662**

In October of 2002 an unathorized release form (URF) was completed for this site. Older petroleum fuel tanks at the site had been removed previously, but one fuel tank was found and removed in October of 2002. Additional site assessment activities were completed between 2001 and 2009. An interim remedial action consisting of over-excavation at the site was completed in September of 2005. The bulk of the remaining soil contamination at this site remains under the current alignment of Highway 99.

LUST:

Global Id:	T0604784170
Contact Type:	Local Agency Caseworker - Primary Caseworker
Contact Name:	ERIC SWENSON
Organization Name:	MERCED COUNTY
Address:	260 E. 15th Street
City:	MERCED
Email:	eh29@co.merced.ca.us
Phone Number:	2093811075

Global Id:	T0604784170
Contact Type:	Regional Board Caseworker
Contact Name:	MICHEALE EASLEY
Organization Name:	CENTRAL VALLEY RWQCB (REGION 5F)
Address:	1685 E Street
City:	FRESNO
Email:	micheale.easley@waterboards.ca.gov
Phone Number:	5594884391

LUST:

Global Id:	T0604784170
Action Type:	ENFORCEMENT
Date:	05/21/2003
Action:	* Historical Enforcement

Global Id:	T0604784170
Action Type:	ENFORCEMENT
Date:	07/25/2008
Action:	Staff Letter

Global Id:	T0604784170
Action Type:	ENFORCEMENT
Date:	07/23/2009
Action:	Staff Letter

Global Id:	T0604784170
Action Type:	Other
Date:	10/07/2002
Action:	Leak Reported

Global Id:	T0604784170
Action Type:	ENFORCEMENT
Date:	11/07/2007
Action:	Staff Letter

Global Id:	T0604784170
Action Type:	ENFORCEMENT
Date:	11/02/2006

PRIVATE RESIDENCE (Continued) **S110654662**

Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 12/29/2008
Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 02/07/2011
Action: LOP Case Closure Summary to RB

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 02/07/2011
Action: Notification - Fee Title Owners Notice

Global Id: T0604784170
Action Type: REMEDIATION
Date: 08/15/2005
Action: Excavation

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 12/02/2005
Action: * Historical Enforcement

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 02/22/2007
Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 03/30/2005
Action: * Historical Enforcement

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 04/10/2006
Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 02/14/2011
Action: Notification - Public Notice of Case Closure

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 07/27/2005
Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 07/03/2008
Action: Staff Letter

PRIVATE RESIDENCE (Continued) **S110654662**

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 01/10/2005
Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 04/19/2010
Action: Staff Letter

Global Id: T0604784170
Action Type: ENFORCEMENT
Date: 03/18/2011
Action: Staff Letter

Global Id: T0604784170
Action Type: Other
Date: 12/01/2000
Action: Leak Discovery

LUST:
Global Id: T0604784170
Status: Open - Case Begin Date
Status Date: 11/01/2000

Global Id: T0604784170
Status: Open - Site Assessment
Status Date: 11/01/2000

Global Id: T0604784170
Status: Open - Site Assessment
Status Date: 05/21/2003

Global Id: T0604784170
Status: Open - Remediation
Status Date: 08/15/2005

Global Id: T0604784170
Status: Open - Verification Monitoring
Status Date: 02/23/2007

Global Id: T0604784170
Status: Completed - Case Closed
Status Date: 03/18/2011

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19 **CUADROS SITE** **LUST** **S105693801**
South **1445 YALE AVENUE** **N/A**
1/4-1/2 **MERCED, CA 95340**
0.458 mi.
2420 ft.

Relative: LUST REG 5:
Lower Name: CUADROS SITE
Actual: Address: 1445 YALE AVENUE
182 ft. City: MERCED
Region: 5

CUADROS SITE (Continued) **S105693801**

Status: Post remedial action monitoring
Case Number: 5T24000538
Case Type: Other ground water affected
Substance: GASOLINE
Staff Initials: WWG
Lead Agency: Local
Program: LUST
MTBE Code: N/A

20
NE
1/2-1
0.636 mi.
3357 ft.

MERCED MUNICIPAL AIRPORT **ENVIROSTOR** **S100184033**
CHILDS & WEST AVENUES (SW OF MERCED) **N/A**
MERCED, CA 95340

Relative:
Higher

Actual:
190 ft.

ENVIROSTOR:
Name: MERCED MUNICIPAL AIRPORT
Address: CHILDS & WEST AVENUES (SW OF MERCED)
City,State,Zip: MERCED, CA 95340
Facility ID: 24450005
Status: Refer: RWQCB
Status Date: 01/28/1991
Site Code: 100109
Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: RWQCB
Lead Agency: RWQCB
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Sacramento
Assembly: 27
Senate: 14
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 37.28676
Longitude: -120.5161
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: * Pesticides - Wastes From Production * CONTAMINATED SOIL
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: P14054
Alias Type: PCode
Alias Name: 100109
Alias Type: Project Code (Site Code)
Alias Name: 24450005
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 01/28/1987
Comments: SITE SCREENING DONE.

MERCED MUNICIPAL AIRPORT (Continued) **S100184033**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	05/09/1983
Comments:	FACILITY IDENTIFIED FROM COMPASS MAP.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

C21 **GE/KENDALL/BECHTEL (AIR STRIPP** **ENVIROSTOR** **S100926644**
NNE **1715 NORTH KIBBY ROAD** **EMI** **N/A**
1/2-1 **MERCED, CA 95340**
0.978 mi.
5164 ft. **Site 1 of 2 in cluster C**

Relative: Higher

Actual: 188 ft.

ENVIROSTOR:

Name:	KENDALL COMPANY PLANT
Address:	1715 NORTH KIBBY ROAD
City,State,Zip:	MERCED, CA 95340
Facility ID:	24280043
Status:	Refer: RWQCB
Status Date:	01/01/1989
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Sacramento
Assembly:	27
Senate:	14
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.29304
Longitude:	-120.4169
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	* UNSPECIFIED ACID SOLUTION * UNSPECIFIED SOLVENT MIXTURES
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	110013828634
Alias Type:	EPA (FRS #)
Alias Name:	24280043
Alias Type:	Envirostor ID Number

Completed Info:

GE/KENDALL/BECHTEL (AIR STRIPP (Continued) **S100926644**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	02/10/1987
Comments:	SITE SCREENING DONE

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	05/25/1983
Comments:	FACILITY IDENTIFIED FROM COUNTY HEALTH DEPARTMENT TIP.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

EMI:

Name:	GE/KENDALL/BECHTEL (AIR STRIPP
Address:	1715 NORTH KIBBY ROAD
City,State,Zip:	MERCED, CA 95340
Year:	1990
County Code:	24
Air Basin:	SJV
Facility ID:	98
Air District Name:	SJU
SIC Code:	8711
Air District Name:	SAN JOAQUIN VALLEY UNIFIED APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

C22 **WELLMADE METAL PRODUCTS CO.** **CA BOND EXP. PLAN** **S100833453**
NNE **1715 KIBBY ROAD** **EMI** **N/A**
1/2-1 **MERCED, CA 95340**
0.978 mi.
5164 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
188 ft.

CA BOND EXP. PLAN:

Reponsible Party:	RWQCB REFERRAL SITE
Project Revenue Source Company:	Not reported
Project Revenue Source Addr:	Not reported
Project Revenue Source City,St,Zip:	Not reported
Project Revenue Source Desc:	At this time, it appears that the RP will remediate the site under the oversight of the RWQCB. Until such time as the RWQCB transfers the site back to the Department, there are no plans to spend Bond funds at this site.

WELLMADE METAL PRODUCTS CO. (Continued) **S100833453**

Site Description: The Plant was constructed in 1959 at Kibby Road and Highway 140 in Merced. It was operated as a manufacturing facility by Continental Can Company until 1967. From 1967 until 1972, General Electric owned and operated the facility. Their operations included the use of trichloroethylene (TCE) to clean transformers. Kendall purchased the facility in 1972 and operated it until 1981. They produced biodegradable paper fabric. The plant has been vacant since 1981. TCE has been found in wells on and offsite.

Hazardous Waste Desc: Onsite concentrations of TCE were found to be as high as 6,300 parts per billion (ppb).

Threat To Public Health & Env: TCE was found in three wells onsite and in a well immediately adjacent to the plant at extremely high levels. A Merced Irrigation District agricultural well is located just outside the Kendall fence at the southeast corner of the plant. Also threatened are two City of Merced wells, located north and west of the site, that serve domestic water to approximately 7 - 8 thousand people. The Hartley Lateral Canal is also threatened. It supplies irrigation water to approximately 11 square miles of agricultural land.

Site Activity Status: A ground water and soil assessment is currently being conducted by the responsible party. The study consists of several phases. Phase III was completed in March, 1987. The RP has initiated a ground water IRM to extract and treat onsite contamination. No enforcement action is currently pending on the site.

EMI:

Name:	WELLMADE METAL PRODUCTS CO.
Address:	1715 KIBBY ROAD
City,State,Zip:	MERCED, CA 95340
Year:	1990
County Code:	24
Air Basin:	SJV
Facility ID:	110
Air District Name:	SJU
SIC Code:	3499
Air District Name:	SAN JOAQUIN VALLEY UNIFIED APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	10
Reactive Organic Gases Tons/Yr:	10
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MERCED	S107539364		MISSION AVE AND COFFEE AVE (AT	95340	CDL
MERCED	S129213618	TUTTLE ELEMENTARY SCHOOL	WEST OF CAMPUS PARKWAY, NORTH	95341	ENVIROSTOR, SCH
SOUTHWEST CITY OF ME	S105960400	MERCED MUNICIPAL AIRPORT	CHILDS AND WEST AVENUES	95340	CA BOND EXP. PLAN

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/20/2023
Date Data Arrived at EDR: 12/20/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/26/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/29/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/29/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 21

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/16/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/12/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 80

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/07/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/25/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/04/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 11/16/2023
Date Data Arrived at EDR: 11/16/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 89

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 89

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/17/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 56

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/18/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/13/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/12/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 04/04/2024
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 04/15/2024
Number of Days to Update: 10

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/22/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/04/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/18/2023
Number of Days to Update: 81

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/29/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/21/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 85

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/12/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/20/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 77

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 84

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/30/2024
Date Data Arrived at EDR: 02/13/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 51

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/13/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/11/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/11/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/13/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 04/29/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/14/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86
Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/15/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/17/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 70
Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/17/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 57

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/23/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/11/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 5

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/26/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/15/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 02/29/2024
Date Data Arrived at EDR: 03/01/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/01/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 43

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/21/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 12

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 02/22/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/20/2023
Number of Days to Update: 12

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/17/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/12/2024
Date Data Arrived at EDR: 02/13/2024
Date Made Active in Reports: 04/04/2024
Number of Days to Update: 51

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/13/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 04/22/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 03/04/2024
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: No Update Planned

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data
The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing
A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/26/2024
Number of Days to Update: 88

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/06/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing
Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing

This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 11/30/2023
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/13/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/21/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 77

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

DRYCLEAN VENTURA CO DIST: Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 02/08/2024
Number of Days to Update: 23

Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/21/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 02/20/2024
Date Data Arrived at EDR: 02/22/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 76

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

DRYCLEAN MOJAVE DESERT DIST: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 04/15/2024
Date Data Arrived at EDR: 04/17/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 7

Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE CO DIST: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 10/18/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 90

Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN FEATHER RIVER DIST: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88

Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO CO DIST: San Diego County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 03/19/2024
Date Data Arrived at EDR: 03/21/2024
Date Made Active in Reports: 04/12/2024
Number of Days to Update: 22

Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/02/2024
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 04/15/2024
Number of Days to Update: 10

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Annually

DRYCLEAN GRANT: Grant Recipients List
Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 01/26/2024
Date Made Active in Reports: 04/16/2024
Number of Days to Update: 81
Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

DRYCLEAN LAKE CO DIST: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 02/15/2024
Date Data Arrived at EDR: 02/16/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 76
Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN EAST KERN DIST: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 01/12/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL CO DIST: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MENDO CO DIST: Mendocino County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/28/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 77
Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO DIST: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/05/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 75
Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SHASTA CO DIST: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78
Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTEREY BAY DIST: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/05/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 75
Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB CO DIST: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/20/2024
Number of Days to Update: 76
Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER CO DIST: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89
Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN JOAQ VAL DIST: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 77
Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BAY AREA DIST: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432
Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN CALAVERAS CO DIST: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412
Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN NO COAST UNIFIED DIST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473
Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SIERRA DIST: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 05/07/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB CO DIST: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN TEHAMA CO DIST: Tehama County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468
Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GLENN CO DIST: Glenn County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 01/08/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77
Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SONOMA CO DIST: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 01/05/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77
Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO METO DIST: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing
A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 01/03/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77
Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 06/09/2023
Date Made Active in Reports: 08/30/2023
Number of Days to Update: 82
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/14/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/11/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/07/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/07/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 01/26/2024
Date Data Arrived at EDR: 01/30/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/25/2024
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/07/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/23/2024
Number of Days to Update: 86

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/06/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 02/29/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Annually

SANTA CRUZ CO SITE MITI: Site Mitigation Listing

Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20

Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 90

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/04/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 11/29/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 86
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/05/2023
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Varies

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 05/08/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 05/08/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/18/2023
Date Data Arrived at EDR: 12/18/2023
Date Made Active in Reports: 03/13/2024
Number of Days to Update: 86

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/19/2024
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 76

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/28/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 76

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 04/25/2024
Date Data Arrived at EDR: 05/01/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/08/2024
Date Made Active in Reports: 04/26/2024
Number of Days to Update: 78

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 03/26/2024
Number of Days to Update: 68

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/09/2024
Date Data Arrived at EDR: 01/10/2024
Date Made Active in Reports: 03/27/2024
Number of Days to Update: 77

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/09/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/29/2023
Number of Days to Update: 76

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/13/2023
Date Data Arrived at EDR: 07/13/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 76

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/11/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 12/14/2023
Number of Days to Update: 1

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 03/07/2024
Number of Days to Update: 85
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/19/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/18/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/12/2023
Date Data Arrived at EDR: 05/02/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 42
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/20/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/15/2023
Date Data Arrived at EDR: 11/20/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 87

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/08/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/31/2023
Date Data Arrived at EDR: 11/03/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 81

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/09/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 11/21/2023
Number of Days to Update: 12
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/29/2024
Number of Days to Update: 85
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/04/2024
Date Made Active in Reports: 03/21/2024
Number of Days to Update: 77
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/25/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 01/26/2024
Number of Days to Update: 8

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/13/2024
Date Data Arrived at EDR: 02/14/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 78

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 11/27/2023
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/16/2024
Number of Days to Update: 81

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 02/27/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2023
Date Data Arrived at EDR: 01/31/2024
Date Made Active in Reports: 04/17/2024
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/01/2024
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 04/24/2024
Number of Days to Update: 83
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 01/15/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/05/2024
Number of Days to Update: 78
Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 04/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/08/2024
Next Scheduled EDR Contact: 06/24/2024
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/14/2024
Date Data Arrived at EDR: 02/14/2024
Date Made Active in Reports: 05/02/2024
Number of Days to Update: 78

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/01/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/21/2024
Date Data Arrived at EDR: 02/22/2024
Date Made Active in Reports: 05/08/2024
Number of Days to Update: 76

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/16/2024
Next Scheduled EDR Contact: 06/03/2024
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/23/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/15/2024
Next Scheduled EDR Contact: 07/01/2024
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/05/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 19

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/26/2024
Next Scheduled EDR Contact: 06/10/2024
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/05/2023
Date Data Arrived at EDR: 02/01/2024
Date Made Active in Reports: 02/28/2024
Number of Days to Update: 27

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 04/03/2024
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/12/2024
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/12/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/24/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 75

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/02/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/09/2024
Number of Days to Update: 77

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/15/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 02/26/2024
Number of Days to Update: 89
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/05/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/18/2023
Date Data Arrived at EDR: 12/26/2023
Date Made Active in Reports: 03/19/2024
Number of Days to Update: 84
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/22/2024
Next Scheduled EDR Contact: 07/08/2024
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/22/2024
Date Data Arrived at EDR: 01/23/2024
Date Made Active in Reports: 04/08/2024
Number of Days to Update: 76
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/19/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 04/25/2024
Number of Days to Update: 79
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/07/2024
Next Scheduled EDR Contact: 08/19/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/29/2024
Next Scheduled EDR Contact: 07/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/25/2024
Next Scheduled EDR Contact: 08/05/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/08/2024
Next Scheduled EDR Contact: 07/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/01/2024
Next Scheduled EDR Contact: 06/17/2024
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PROPOSED RESIDENTIAL PROPERTY
CAMPUS PARKWAY
MERCED, CA 95341

TARGET PROPERTY COORDINATES

Latitude (North):	37.2769 - 37° 16' 36.84''
Longitude (West):	120.426684 - 120° 25' 36.06''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	728156.8
UTM Y (Meters):	4128491.0
Elevation:	184 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50005613 MERCED, CA
Version Date:	2021

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

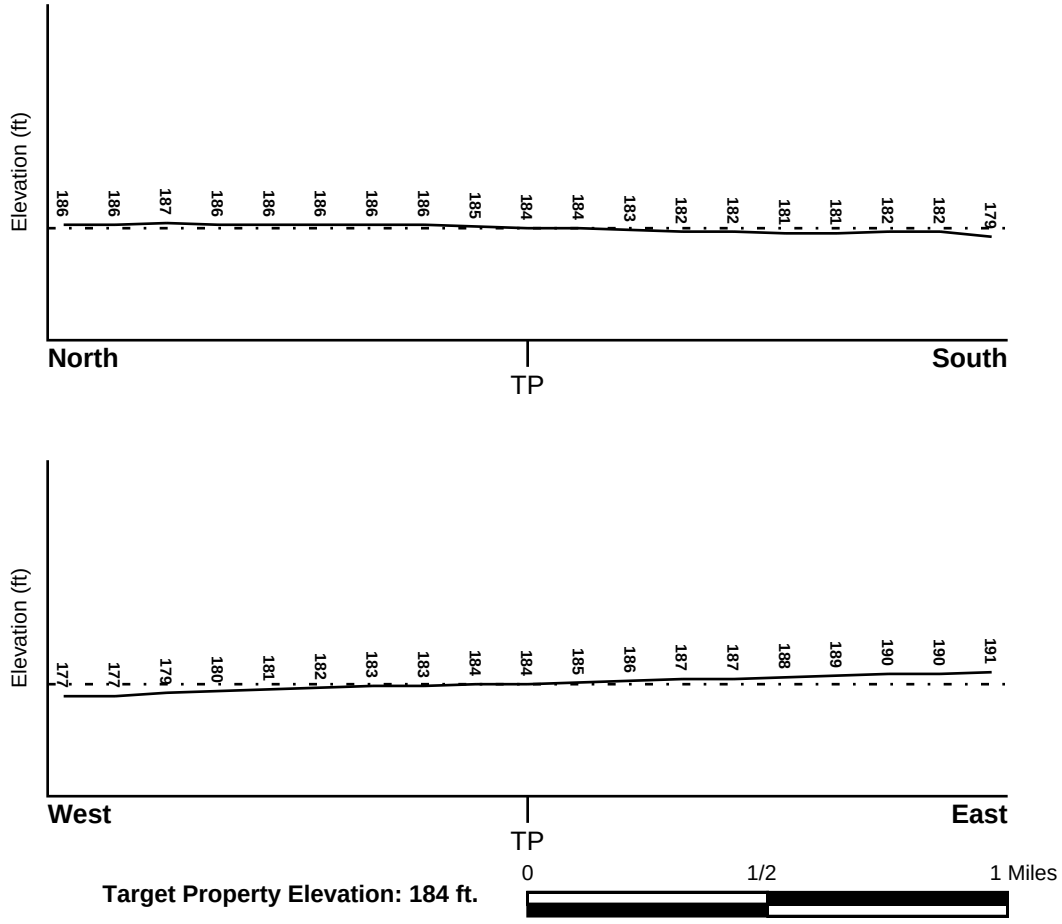
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06047C0445G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06047C0440G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MERCED	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

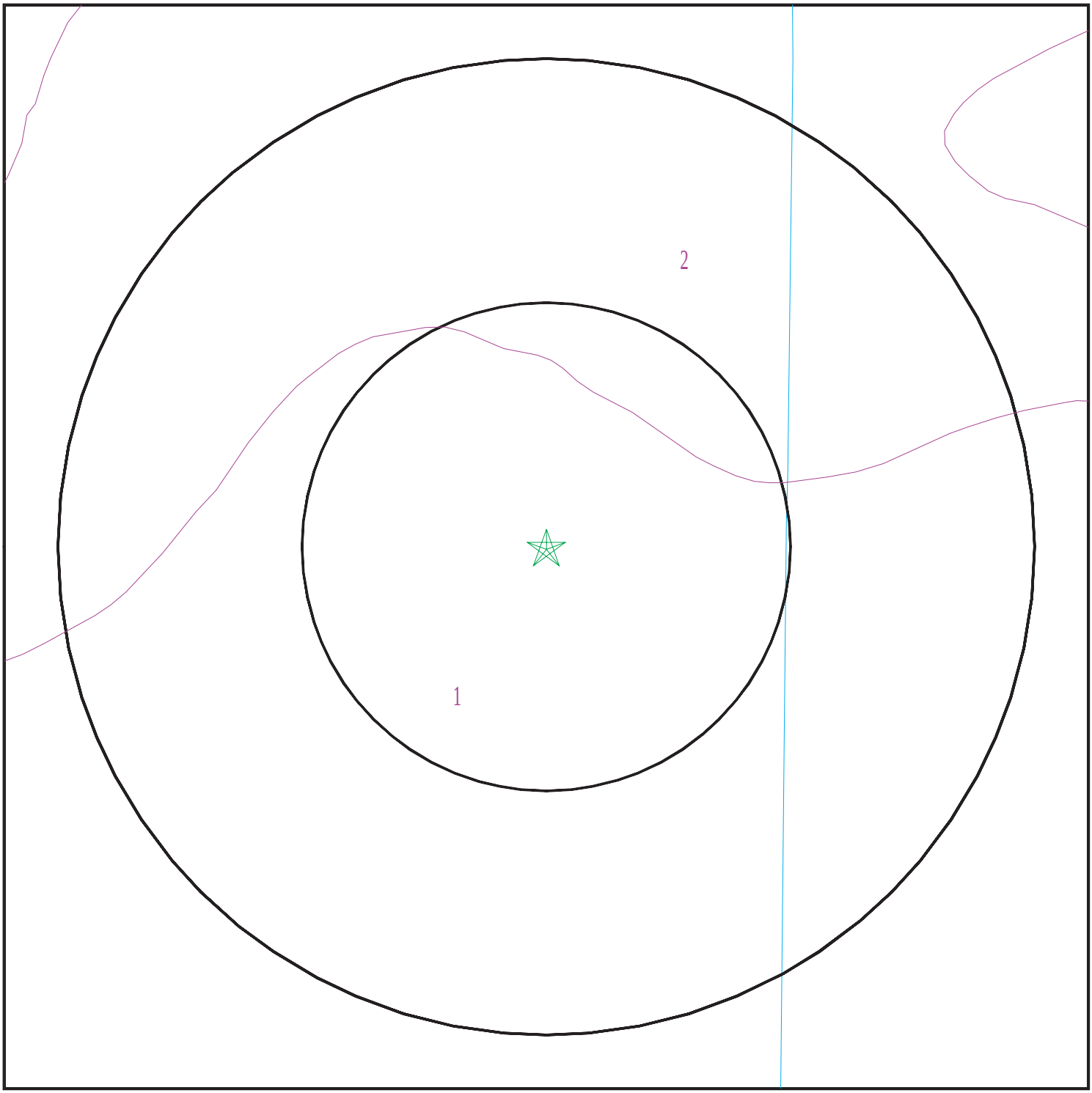
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7647153.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	Campus Parkway Merced CA 95341	CONTACT:	Melanie L Thomas
LAT/LONG:	37.2769 / 120.426684	INQUIRY #:	7647153.2s
		DATE:	May 09, 2024 12:36 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Landlow

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.9
2	11 inches	46 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.9
3	46 inches	59 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Wyman

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
2	14 inches	40 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
3	40 inches	59 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	USGS40000181867	1/4 - 1/2 Mile NNE
10	USGS40000181910	1/2 - 1 Mile NNW
D12	USGS40000181919	1/2 - 1 Mile North
F19	USGS40000181909	1/2 - 1 Mile NW
I28	USGS40000181839	1/2 - 1 Mile WSW
K40	USGS40000181828	1/2 - 1 Mile SW
L50	USGS40000181929	1/2 - 1 Mile NNW
Q61	USGS40000181820	1/2 - 1 Mile SW
M65	USGS40000181842	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	8018	1/8 - 1/4 Mile WNW
A2	CADWR9000034585	1/8 - 1/4 Mile NNE
B4	CADWR9000034579	1/4 - 1/2 Mile NW
B5	CADDW2000015454	1/4 - 1/2 Mile NW
6	CAEDF0000001157	1/4 - 1/2 Mile South
7	CADWR9000034557	1/4 - 1/2 Mile WSW
C8	CADDW2000022913	1/2 - 1 Mile WNW
C9	CADWR9000034580	1/2 - 1 Mile WNW
11	CAEDF0000025331	1/2 - 1 Mile SSE
E13	CADWR9000034592	1/2 - 1 Mile ENE
E14	CADDW2000004751	1/2 - 1 Mile ENE
F15	CADWR9000034609	1/2 - 1 Mile NW
D16	CADWR9000034626	1/2 - 1 Mile North
F17	CAUSGSN00017201	1/2 - 1 Mile NW
18	CADWR9000034521	1/2 - 1 Mile SE
D20	CAEDF0000127571	1/2 - 1 Mile North
G21	CAEDF0000135443	1/2 - 1 Mile SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
22	CAEDF0000039515	1/2 - 1 Mile North
H23	8003	1/2 - 1 Mile North
G24	CAEDF0000092811	1/2 - 1 Mile South
G25	CAEDF0000140353	1/2 - 1 Mile SSW
I26	CADWR9000034529	1/2 - 1 Mile WSW
G27	CAEDF0000128193	1/2 - 1 Mile SSW
G29	CAEDF0000023865	1/2 - 1 Mile South
G30	CAEDF0000068057	1/2 - 1 Mile SSW
G31	CAEDF0000049062	1/2 - 1 Mile SSW
G32	CAEDF0000122591	1/2 - 1 Mile SSW
G33	CAEDF0000136051	1/2 - 1 Mile SSW
34	CAEDF0000130976	1/2 - 1 Mile NNW
H35	CAEDF0000095731	1/2 - 1 Mile North
J36	CAEDF0000065907	1/2 - 1 Mile NNW
J37	CAEDF0000092663	1/2 - 1 Mile NNW
H38	CAEDF0000093722	1/2 - 1 Mile North
G39	CAEDF0000022719	1/2 - 1 Mile SSW
K41	CADDW2000019074	1/2 - 1 Mile SW
L42	8002	1/2 - 1 Mile NNW
J43	CADWR9000034644	1/2 - 1 Mile NNW
L44	CAEDF0000013687	1/2 - 1 Mile NNW
K45	CADWR9000034512	1/2 - 1 Mile SW
M46	CADWR9000034528	1/2 - 1 Mile ESE
M47	CADWR0000027924	1/2 - 1 Mile ESE
N48	CAEDF0000096330	1/2 - 1 Mile North
N49	CAEDF0000111863	1/2 - 1 Mile North
N51	CADDW2000019262	1/2 - 1 Mile North
N52	CADWR9000034662	1/2 - 1 Mile North
O53	CAEDF0000073372	1/2 - 1 Mile NNW
O54	CAEDF0000040616	1/2 - 1 Mile NNW
O55	CAEDF0000130978	1/2 - 1 Mile NNW
O56	CAEDF0000051144	1/2 - 1 Mile NNW
57	CAEDF0000028912	1/2 - 1 Mile WNW
O58	CAEDF0000086228	1/2 - 1 Mile NNW
P59	CAEDF0000070732	1/2 - 1 Mile North
P60	CAEDF0000049214	1/2 - 1 Mile North
P62	CAEDF0000064731	1/2 - 1 Mile North
P63	CAEDF0000047292	1/2 - 1 Mile North
P64	CAEDF0000033962	1/2 - 1 Mile North
M66	CAUSGSN00015139	1/2 - 1 Mile ESE
O67	CAEDF0000079861	1/2 - 1 Mile NNW
O68	CAEDF0000115696	1/2 - 1 Mile NNW
O69	CAEDF0000011737	1/2 - 1 Mile NNW
O70	CAEDF0000047291	1/2 - 1 Mile NNW
O71	CAEDF0000115176	1/2 - 1 Mile NNW
O72	CAEDF0000118923	1/2 - 1 Mile NNW
73	CAEDF0000100554	1/2 - 1 Mile NNW
Q74	CADDW2000019701	1/2 - 1 Mile SSW
Q75	CADWR9000034504	1/2 - 1 Mile SSW
76	CADWR9000034498	1/2 - 1 Mile South
R77	8004	1/2 - 1 Mile NNE
78	CADWR9000034643	1/2 - 1 Mile NE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

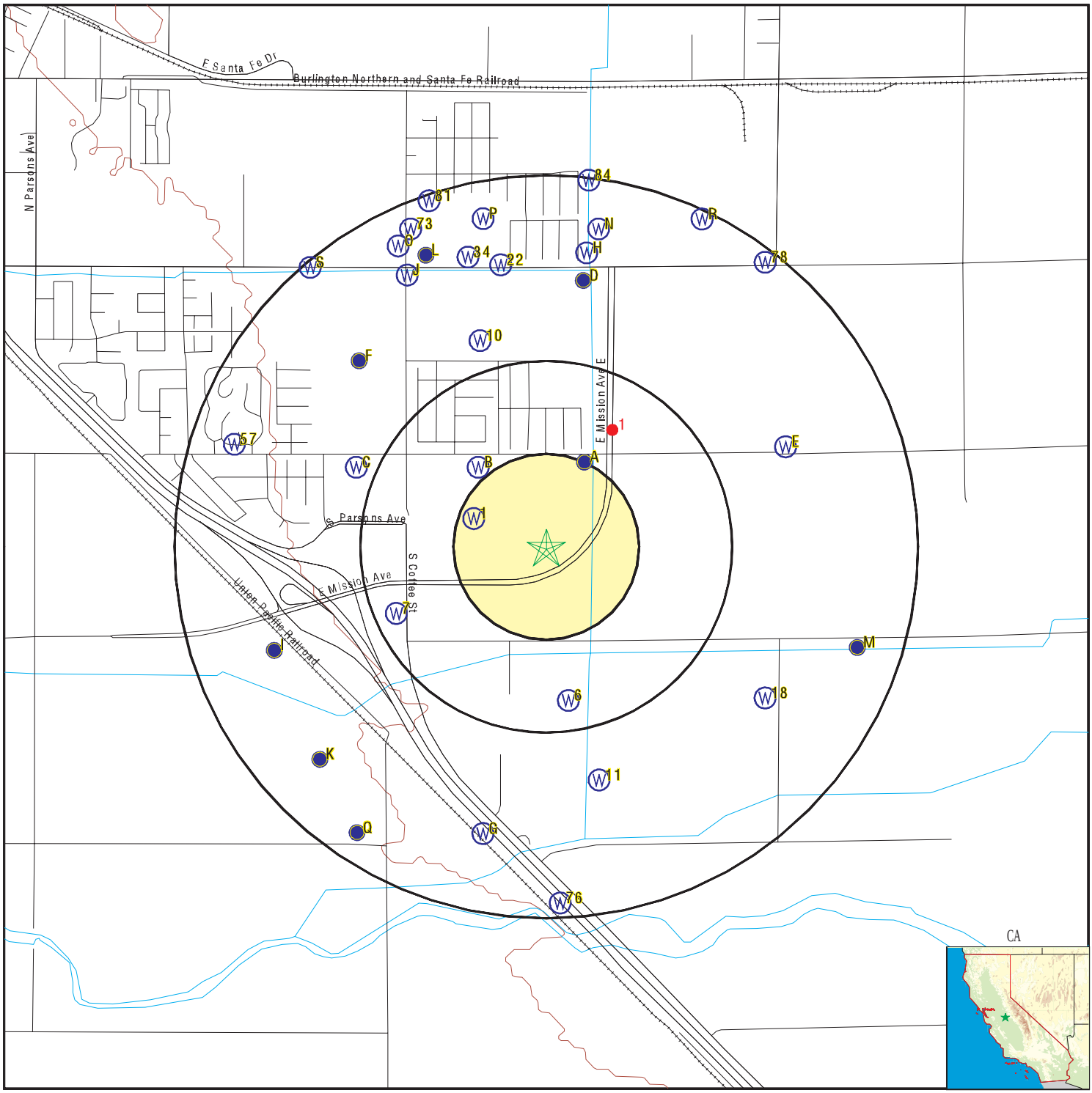
MAP ID	WELL ID	LOCATION FROM TP
S79	CAEDF0000100703	1/2 - 1 Mile NW
R80	CADWR9000034667	1/2 - 1 Mile NNE
81	CAEDF0000002520	1/2 - 1 Mile NNW
R82	CADDW2000022153	1/2 - 1 Mile NNE
S83	CAEDF0000013405	1/2 - 1 Mile NW
84	CAEDF0000010576	1/2 - 1 Mile North
S85	CAEDF0000071197	1/2 - 1 Mile NW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG17000013810	1/4 - 1/2 Mile NNE

PHYSICAL SETTING SOURCE MAP - 7647153.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	Campus Parkway Merced CA 95341	CONTACT:	Melanie L Thomas
		INQUIRY #:	7647153.2s
LAT/LONG:	37.2769 / 120.426684	DATE:	May 09, 2024 12:36 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
WNW
1/8 - 1/4 Mile
Higher | **CA WELLS** | **8018**

Seq:	8018	Prim sta c:	07S/14E-34M01 M
Frds no:	2410009020	County:	24
District:	11	User id:	AGE
System no:	2410009	Water type:	G
Source nam:	WELL 13	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	371641.0	Longitude:	1202545.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	2410009	System nam:	City Of Merced
Hqname:	Not Reported	Address:	PO BOX 2068
City:	MERCED	State:	Not Reported
Zip:	95340	Zip ext:	Not Reported
Pop serv:	60187	Connection:	14218
Area serve:	CITY OF MERCED AND VICINITY		

Sample date:	17-NOV-17	Finding:	6.8
Chemical:	CHLOROMETHANE	Report units:	UG/L
Dlr:	0.5		

Sample date:	17-NOV-17	Finding:	0.69
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		

Sample date:	01-AUG-17	Finding:	2.3
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	13-OCT-16	Finding:	0.83
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		

Sample date:	01-SEP-16	Finding:	300.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		

Sample date:	01-SEP-16	Finding:	1.7
Chemical:	GROSS BETA MDA95	Report units:	PCI/L
Dlr:	0.		

Sample date:	01-SEP-16	Finding:	0.81
Chemical:	RADIUM 228 MDA95	Report units:	PCI/L
Dlr:	0.		

Sample date:	01-SEP-16	Finding:	8.
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		

Sample date:	01-SEP-16	Finding:	110.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		

Sample date:	01-SEP-16	Finding:	130.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	2.3
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-SEP-16	Finding:	67.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	19.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	4.7
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	32.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	12.
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	9.6
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	14.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-SEP-16	Finding:	0.12
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-SEP-16	Finding:	7.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	01-SEP-16	Finding:	170.
Chemical:	BARIUM	Report units:	UG/L
Dlr:	100.		
Sample date:	01-SEP-16	Finding:	3.3
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	01-SEP-16	Finding:	3.
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	2.6
Chemical:	GROSS BETA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	230.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L

Dlr:	0.		
Sample date:	01-SEP-16	Finding:	0.44
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	2.3
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-SEP-16	Finding:	3.
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-SEP-16	Finding:	0.47
Chemical:	RADIUM 226 MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	16-JUN-16	Finding:	1.
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	12-FEB-16	Finding:	2.5
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	07-JAN-16	Finding:	0.52
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	18-JUN-15	Finding:	0.79
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	26-MAY-15	Finding:	0.86
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	04-FEB-15	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-JAN-15	Finding:	280.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	28-JAN-15	Finding:	3.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	22-JAN-15	Finding:	4.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	16-JAN-15	Finding:	4.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	15-JAN-15	Finding:	0.56
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	08-JAN-15	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-DEC-14	Finding:	3.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	22-DEC-14	Finding:	4.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-DEC-14	Finding:	4.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	10-DEC-14	Finding:	4.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	03-DEC-14	Finding:	3.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	24-NOV-14	Finding:	2.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	20-NOV-14	Finding:	0.54
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	19-NOV-14	Finding:	4.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	06-NOV-14	Finding:	3.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	05-NOV-14	Finding:	4.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-OCT-14	Finding:	5.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	23-OCT-14	Finding:	6.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-OCT-14	Finding:	5.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	08-OCT-14	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	01-OCT-14	Finding:	5.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	25-SEP-14	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-SEP-14	Finding:	3.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	11-SEP-14	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	04-SEP-14	Finding:	3.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	27-AUG-14	Finding:	7.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-AUG-14	Finding:	3.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	14-AUG-14	Finding:	5.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-AUG-14	Finding:	7.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	30-JUL-14	Finding:	7.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	24-JUL-14	Finding:	8.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	16-JUL-14	Finding:	7.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	10-JUL-14	Finding:	6.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-JUL-14	Finding:	7.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-JUN-14	Finding:	4.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	19-JUN-14	Finding:	7.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-JUN-14	Finding:	6.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	05-JUN-14	Finding:	7.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	30-MAY-14	Finding:	7.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	22-MAY-14	Finding:	6.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-MAY-14	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	08-MAY-14	Finding:	6.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	01-MAY-14	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	25-APR-14	Finding:	5.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	17-APR-14	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	10-APR-14	Finding:	3.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	03-APR-14	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	27-MAR-14	Finding:	2.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	20-MAR-14	Finding:	0.74
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	06-MAR-14	Finding:	5.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	27-FEB-14	Finding:	3.7
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	21-FEB-14	Finding:	5.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	13-FEB-14	Finding:	2.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	06-FEB-14	Finding:	2.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	31-JAN-14	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	23-JAN-14	Finding:	4.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	16-JAN-14	Finding:	0.76
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	16-JAN-14	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-JAN-14	Finding:	0.56
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	09-JAN-14	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-JAN-14	Finding:	210.
Chemical:	BARIUM	Report units:	UG/L
Dlr:	100.		
Sample date:	09-JAN-14	Finding:	30.
Chemical:	MANGANESE	Report units:	UG/L
Dlr:	20.		
Sample date:	09-JAN-14	Finding:	240.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	0.2
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	5.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	09-JAN-14	Finding:	12.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	09-JAN-14	Finding:	11.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	11.
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	31.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	6.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	26.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	89.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	160.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	130.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	8.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	02-JAN-14	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-DEC-13	Finding:	4.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-DEC-13	Finding:	0.79
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	19-DEC-13	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-DEC-13	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	05-DEC-13	Finding:	5.5
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	27-NOV-13	Finding:	4.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-NOV-13	Finding:	4.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	14-NOV-13	Finding:	4.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-NOV-13	Finding:	4.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	31-OCT-13	Finding:	8.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	17-OCT-13	Finding:	7.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	11-OCT-13	Finding:	7.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	03-OCT-13	Finding:	6.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-SEP-13	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-SEP-13	Finding:	0.63
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	19-SEP-13	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-SEP-13	Finding:	3.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	05-SEP-13	Finding:	8.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	30-AUG-13	Finding:	8.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	22-AUG-13	Finding:	7.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	15-AUG-13	Finding:	4.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	08-AUG-13	Finding:	8.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	01-AUG-13	Finding:	3.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	25-JUL-13	Finding:	7.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-JUL-13	Finding:	7.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	11-JUL-13	Finding:	7.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-JUL-13	Finding:	6.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	27-JUN-13	Finding:	6.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	20-JUN-13	Finding:	6.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	13-JUN-13	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	06-JUN-13	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	31-MAY-13	Finding:	4.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	24-MAY-13	Finding:	4.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	17-MAY-13	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-MAY-13	Finding:	4.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-MAY-13	Finding:	4.
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	25-APR-13	Finding:	3.6
Chemical:	DICHLOROMETHANE	Report units:	UG/L
Dlr:	0.5		
Sample date:	25-APR-13	Finding:	5.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-APR-13	Finding:	7.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	11-APR-13	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	04-APR-13	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	28-MAR-13	Finding:	7.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-MAR-13	Finding:	4.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	14-MAR-13	Finding:	0.65
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	13-MAR-13	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-MAR-13	Finding:	3.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	28-FEB-13	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-FEB-13	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	14-FEB-13	Finding:	7.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-FEB-13	Finding:	4.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	31-JAN-13	Finding:	1.64
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		

Sample date:	31-JAN-13	Finding:	4.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	31-JAN-13	Finding:	0.191
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	25-JAN-13	Finding:	4.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-JAN-13	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	17-JAN-13	Finding:	0.77
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	11-JAN-13	Finding:	4.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	03-JAN-13	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	27-DEC-12	Finding:	5.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-DEC-12	Finding:	4.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	13-DEC-12	Finding:	4.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	06-DEC-12	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	06-DEC-12	Finding:	5.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-NOV-12	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-NOV-12	Finding:	1.1
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	29-NOV-12	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-NOV-12	Finding:	3.8
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	21-NOV-12	Finding:	5.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-NOV-12	Finding:	2.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-NOV-12	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-NOV-12	Finding:	4.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-NOV-12	Finding:	3.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	01-NOV-12	Finding:	6.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	01-NOV-12	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-OCT-12	Finding:	6.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-OCT-12	Finding:	2.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-OCT-12	Finding:	5.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-OCT-12	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-OCT-12	Finding:	7.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	04-OCT-12	Finding:	7.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	04-OCT-12	Finding:	4.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	28-SEP-12	Finding:	5.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	28-SEP-12	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	20-SEP-12	Finding:	7.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	20-SEP-12	Finding:	3.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	14-SEP-12	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	14-SEP-12	Finding:	4.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-SEP-12	Finding:	5.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-SEP-12	Finding:	6.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	30-AUG-12	Finding:	7.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	30-AUG-12	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	23-AUG-12	Finding:	6.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	23-AUG-12	Finding:	3.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	16-AUG-12	Finding:	7.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	16-AUG-12	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-AUG-12	Finding:	9.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-AUG-12	Finding:	5.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-JUL-12	Finding:	8.3
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	26-JUL-12	Finding:	5.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-JUL-12	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-JUL-12	Finding:	2.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-JUL-12	Finding:	7.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-JUL-12	Finding:	5.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	05-JUL-12	Finding:	6.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	05-JUL-12	Finding:	4.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-JUN-12	Finding:	9.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-JUN-12	Finding:	8.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-JUN-12	Finding:	4.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	21-JUN-12	Finding:	2.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-JUN-12	Finding:	4.7
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-JUN-12	Finding:	3.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	07-JUN-12	Finding:	6.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	31-MAY-12	Finding:	5.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	24-MAY-12	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	24-MAY-12	Finding:	3.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-MAY-12	Finding:	4.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	18-MAY-12	Finding:	3.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	10-MAY-12	Finding:	5.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	10-MAY-12	Finding:	2.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-MAY-12	Finding:	0.66
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	02-MAY-12	Finding:	5.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-MAY-12	Finding:	5.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-APR-12	Finding:	6.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-APR-12	Finding:	2.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-APR-12	Finding:	3.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-APR-12	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-APR-12	Finding:	3.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	05-APR-12	Finding:	0.51
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	05-APR-12	Finding:	4.6
Chemical:	ARSENIC	Report units:	UG/L

Dlr:	2.		
Sample date:	05-APR-12	Finding:	4.2
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-MAR-12	Finding:	8.
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	29-MAR-12	Finding:	4.3
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	22-MAR-12	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	22-MAR-12	Finding:	2.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-MAR-12	Finding:	4.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	15-MAR-12	Finding:	2.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-MAR-12	Finding:	2.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-MAR-12	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	09-MAR-12	Finding:	0.76
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	02-MAR-12	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-MAR-12	Finding:	3.8
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	23-FEB-12	Finding:	5.4
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	23-FEB-12	Finding:	6.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	16-FEB-12	Finding:	4.6
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

Sample date:	16-FEB-12	Finding:	330.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	10-FEB-12	Finding:	0.86
Chemical:	TRICHLOROETHYLENE	Report units:	UG/L
Dlr:	0.5		
Sample date:	10-FEB-12	Finding:	3.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-FEB-12	Finding:	6.9
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	02-FEB-12	Finding:	3.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	26-JAN-12	Finding:	4.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	19-JAN-12	Finding:	4.5
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		
Sample date:	12-JAN-12	Finding:	3.1
Chemical:	ARSENIC	Report units:	UG/L
Dlr:	2.		

A2
NNE
1/8 - 1/4 Mile
Higher

CA WELLS **CADWR9000034585**

State Well #:	07S14E34L001M	Station ID:	8108
Well Name:	87I	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

A3
NNE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000181867**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S014E34L001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19600101	Well Depth:	144
Well Depth Units:	ft	Well Hole Depth:	204
Well Hole Depth Units:	ft		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B4
NW
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR9000034579**

State Well #:	Not Reported	Station ID:	53916
Well Name:	2400101-001	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

B5
NW
1/4 - 1/2 Mile
Higher

CA WELLS **CADDW2000015454**

GAMA:

Well ID:	CA2400101_001_001	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2400101-001
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2400101_001_001&store_num=		
GeoTracker Data:	Not Reported		

6
South
1/4 - 1/2 Mile
Lower

CA WELLS **CAEDF0000001157**

Well ID:	AGW080012978-MISSION	Well Type:	MONITORING
Source:	Agricultural Lands	Other Name:	MISSION
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=AGLAND&samp_date=&global_id=AGW080012978&assigned_name=MISSION&store_num=		
GeoTracker Data:	Not Reported		

7
WSW
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000034557**

State Well #:	07S14E33R001M	Station ID:	27951
Well Name:	Not Reported	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

C8
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000022913**

GAMA:

Well ID:	CA2410009_020_020	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2410009-020
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2410009_020_020&store_num=		
GeoTracker Data:	Not Reported		

C9
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000034580**

State Well #:	Not Reported	Station ID:	53900
Well Name:	2410009-020	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

10
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000181910**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S014E34D001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

11
SSE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000025331**

Well ID:	AGW080011863-1423_MILES	Well Type:	MONITORING
Source:	Agricultural Lands	Other Name:	1423_MILES
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=AGLAND&samp_date=&global_id=AGW080011863&assigned_name=1423_MILES&store_num=		
GeoTracker Data:	Not Reported		

D12
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000181919**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S014E34C001M	Type:	Well
Description:	Not Reported	HUC:	18040001

Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

E13
ENE **CA WELLS** **CADWR9000034592**
1/2 - 1 Mile
Higher

State Well #:	Not Reported	Station ID:	53954
Well Name:	2410009-041	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

E14
ENE **CA WELLS** **CADDW2000004751**
1/2 - 1 Mile
Higher

GAMA:

Well ID:	CA2410009_041_041	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2410009-041
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2410009_041_041&store_num=		
GeoTracker Data:	Not Reported		

F15
NW **CA WELLS** **CADWR9000034609**
1/2 - 1 Mile
Lower

State Well #:	07S14E33H001M	Station ID:	8106
Well Name:	87AD	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

D16
North **CA WELLS** **CADWR9000034626**
1/2 - 1 Mile
Higher

State Well #:	07S14E34C001M	Station ID:	8107
Well Name:	152	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F17
NW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00017201**

Well ID:	USGS-371704120260501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-371704120260501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-371704120260501&store_num=		
GeoTracker Data:	Not Reported		

18
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000034521**

State Well #:	08S14E03A001M	Station ID:	9637
Well Name:	Not Reported	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

F19
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000181909**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S014E33H001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19401014	Well Depth:	60
Well Depth Units:	ft	Well Hole Depth:	106
Well Hole Depth Units:	ft		

D20
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000127571**

Well ID:	SL185092894-3464E.CHILDSEFF		
Well Type:	MONITORING	Source:	EDF
Other Name:	3464E.CHILDSEFF	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=3464E.CHILDSEFF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=3464E.CHILDSEFF		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G21
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000135443**

Well ID:	T0604784170-CS-MW6	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW6		

22
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000039515**

Well ID:	SL185092894-MW-55	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-55
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-55&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-55		

H23
North
1/2 - 1 Mile
Higher

CA WELLS **8003**

Seq:	8003	Prim sta c:	07S/14E-27Q01 M
Frds no:	2410009018	County:	24
District:	11	User id:	AGE
System no:	2410009	Water type:	G
Source nam:	WELL 10B	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	371717.0	Longitude:	1202526.0
Precision:	2	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	2410009	System nam:	City Of Merced
Hqname:	Not Reported	Address:	PO BOX 2068
City:	MERCED	State:	Not Reported
Zip:	95340	Zip ext:	Not Reported
Pop serv:	60187	Connection:	14218
Area serve:	CITY OF MERCED AND VICINITY		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G24
South
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000092811**

Well ID:	T0604784170-CS-MW5	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW5		

G25
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000140353**

Well ID:	T0604784170-CS-MW2	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW2		

I26
WSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000034529**

State Well #:	08S14E04B001M	Station ID:	9639
Well Name:	142	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

G27
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000128193**

Well ID:	T0604784170-CS-MW9	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW9		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I28
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000181839**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S014E04B001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

G29
South
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000023865**

Well ID:	T0604784170-CS-MW4	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW4		

G30
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000068057**

Well ID:	T0604784170-CS-MW10	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW10
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW10&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW10		

G31
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000049062**

Well ID:	T0604784170-CS-MW3	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW3		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G32
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000122591**

Well ID:	T0604784170-CS-MW8	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW8		

G33
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000136051**

Well ID:	T0604784170-CS-MW11	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW11
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW11&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW11		

34
NNW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000130976**

Well ID:	SL185092894-3160E.CHILDSEFF		
Well Type:	MONITORING	Source:	EDF
Other Name:	3160E.CHILDSEFF	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=3160E.CHILDSEFF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=3160E.CHILDSEFF		

H35
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000095731**

Well ID:	SL185092894-MW-50	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-50
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-50&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-50		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J36
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000065907**

Well ID:	SL185092894-MW-53	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-53
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-53&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-53		

J37
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000092663**

Well ID:	SL185092894-27S.COFFEE	Well Type:	MONITORING
Source:	EDF	Other Name:	27S.COFFEE
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=27S.COFFEE&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=27S.COFFEE		

H38
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000093722**

Well ID:	SL185092894-MW-47	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-47
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-47&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-47		

G39
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000022719**

Well ID:	T0604784170-CS-MW12	Well Type:	MONITORING
Source:	EDF	Other Name:	CS-MW12
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0604784170&assigned_name=CS-MW12&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0604784170&assigned_name=CS-MW12		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K40
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000181828**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S014E04H002M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19720706	Well Depth:	436
Well Depth Units:	ft	Well Hole Depth:	480
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1972-07-06
Feet below surface:	44.00	Feet to sea level:	Not Reported
Note:	Not Reported		

K41
SW
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000019074**

GAMA:

Well ID:	CA2400139_001_001	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2400139-001
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2400139_001_001&store_num=		
GeoTracker Data:	Not Reported		

L42
NNW
1/2 - 1 Mile
Higher

CA WELLS **8002**

Seq:	8002	Prim sta c:	07S/14E-27N02 M
Frds no:	2400101001	County:	24
District:	54	User id:	24C
System no:	2400101	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	371718.0	Longitude:	1202552.0
Precision:	2	Status:	AR
Comment 1:	WELL CONSTRUCTION INFORMATION IS UNKNOWN. TCE CONTAMINATION IS BEING		
Comment 2:	MONITORED. 3076 CHILDS AVE., MERCED		
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	2400101	System nam:	Weaver Elementary School
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported

Pop serv:	0	Connection:	0
Area serve:	Not Reported		

J43
NNW **CA WELLS** **CADWR9000034644**
1/2 - 1 Mile
Lower

State Well #:	07S14E27N001M	Station ID:	27945
Well Name:	Not Reported	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

L44
NNW **CA WELLS** **CAEDF0000013687**
1/2 - 1 Mile
Higher

Well ID:	SL185092894-WEAVERSCHOOL	Well Type:	MONITORING
Source:	EDF	Other Name:	WEAVERSCHOOL
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=WEAVERSCHOOL&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=WEAVERSCHOOL		

K45
SW **CA WELLS** **CADWR9000034512**
1/2 - 1 Mile
Lower

State Well #:	Not Reported	Station ID:	53899
Well Name:	2400139-001	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

M46
ESE **CA WELLS** **CADWR9000034528**
1/2 - 1 Mile
Higher

State Well #:	08S14E02D001M	Station ID:	38968
Well Name:	138	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

M47
ESE **CA WELLS** **CADWR0000027924**
1/2 - 1 Mile
Higher

Well ID:	08S14E02D001M	Well Type:	UNK
Source:	Department of Water Resources		

Other Name:	08S14E02D001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=08S14E02D001M&store_num=		
GeoTracker Data:	Not Reported		

N48
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000096330**

Well ID:	SL185092894-MW-42	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-42
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-42&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-42		

N49
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000111863**

Well ID:	SL185092894-MW-43	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-43
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-43&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-43		

L50
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000181929**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S014E27N001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N51
North
1/2 - 1 Mile
Higher

CA WELLS **CADDW2000019262**

GAMA:

Well ID:	CA2410009_018_018	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2410009-018
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2410009_018_018&store_num=		
GeoTracker Data:	Not Reported		

N52
North
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000034662**

State Well #:	Not Reported	Station ID:	53846
Well Name:	2410009-018	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

O53
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000073372**

Well ID:	SL185092894-2985E.CHILDS	Well Type:	MONITORING
Source:	EDF	Other Name:	2985E.CHILDS
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=2985E.CHILDS&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=2985E.CHILDS		

O54
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000040616**

Well ID:	SL185092894-81N.COFFEEEFF	Well Type:	MONITORING
Source:	EDF	Other Name:	81N.COFFEEEFF
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=81N.COFFEEEFF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=81N.COFFEEEFF		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

O55
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000130978**

Well ID:	SL185092894-81N.COFFEEINT	Well Type:	MONITORING
Source:	EDF	Other Name:	81N.COFFEEINT
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=81N.COFFEEINT&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=81N.COFFEEINT		

O56
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000051144**

Well ID:	SL185092894-81N.COFFEE	Well Type:	MONITORING
Source:	EDF	Other Name:	81N.COFFEE
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=81N.COFFEE&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=81N.COFFEE		

57
WNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000028912**

Well ID:	AGW080012172-CORT	Well Type:	MONITORING
Source:	Agricultural Lands	Other Name:	CORT
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=AGLAND&samp_date=&global_id=AGW080012172&assigned_name=CORT&store_num=		
GeoTracker Data:	Not Reported		

O58
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000086228**

Well ID:	SL185092894-2957E.CHILDS	Well Type:	MONITORING
Source:	EDF	Other Name:	2957E.CHILDS
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=2957E.CHILDS&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=2957E.CHILDS		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

P59
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000070732**

Well ID:	SL185092894-MULTIZONEEFF	Well Type:	MONITORING
Source:	EDF	Other Name:	MULTIZONEEFF
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MULTIZONEEFF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MULTIZONEEFF		

P60
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000049214**

Well ID:	SL185092894-MULTIZONEINF	Well Type:	MONITORING
Source:	EDF	Other Name:	MULTIZONEINF
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MULTIZONEINF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MULTIZONEINF		

Q61
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000181820**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S014E04H001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19720805	Well Depth:	440
Well Depth Units:	ft	Well Hole Depth:	440
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1972-08-05
Feet below surface:	51.00	Feet to sea level:	Not Reported
Note:	Not Reported		

P62
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000064731**

Well ID:	SL185092894-MW-57A	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-57A

GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-57A&store_num=
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-57A

P63
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000047292**

Well ID:	SL185092894-MULTIZONEINT	Well Type:	MONITORING
Source:	EDF	Other Name:	MULTIZONEINT
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MULTIZONEINT&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MULTIZONEINT		

P64
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000033962**

Well ID:	SL185092894-MW-57D	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-57D
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-57D&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-57D		

M65
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000181842**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008S014E02D001M	Type:	Well
Description:	Not Reported	HUC:	18040001
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1975	Well Depth:	116
Well Depth Units:	ft	Well Hole Depth:	190
Well Hole Depth Units:	ft		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M66
ESE
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00015139**

Well ID:	USGS-371623120243601	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-371623120243601	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-371623120243601&store_num=		
GeoTracker Data:	Not Reported		

O67
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000079861**

Well ID:	SL185092894-409N.COFFEEEFF		
Well Type:	MONITORING	Source:	EDF
Other Name:	409N.COFFEEEFF	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=409N.COFFEEEFF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=409N.COFFEEEFF		

O68
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000115696**

Well ID:	SL185092894-409N.COFFEE	Well Type:	MONITORING
Source:	EDF	Other Name:	409N.COFFEE
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=409N.COFFEE&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=409N.COFFEE		

O69
NNW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000011737**

Well ID:	SL185092894-2901E.CHILDS	Well Type:	MONITORING
Source:	EDF	Other Name:	2901E.CHILDS
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=2901E.CHILDS&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=2901E.CHILDS		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

O70
NNW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000047291**

Well ID:	SL185092894-459N.COFFEEEFF		
Well Type:	MONITORING	Source:	EDF
Other Name:	459N.COFFEEEFF	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=459N.COFFEEEFF&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=459N.COFFEEEFF		

O71
NNW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000115176**

Well ID:	SL185092894-459N.COFFEE	Well Type:	MONITORING
Source:	EDF	Other Name:	459N.COFFEE
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=459N.COFFEE&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=459N.COFFEE		

O72
NNW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000118923**

Well ID:	SL185092894-459N.COFFEEINT		
Well Type:	MONITORING	Source:	EDF
Other Name:	459N.COFFEEINT	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=459N.COFFEEINT&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=459N.COFFEEINT		

73
NNW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000100554**

Well ID:	SL185092894-MW-51	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-51
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-51&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-51		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q74
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000019701**

GAMA:

Well ID:	CA2400139_011_011	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2400139-011
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2400139_011_011&store_num=		
GeoTracker Data:	Not Reported		

Q75
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000034504**

State Well #:	Not Reported	Station ID:	53915
Well Name:	2400139-011	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

76
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000034498**

State Well #:	08S14E03L001M	Station ID:	9638
Well Name:	214@	Basin Name:	Merced
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	687	Well Completion Rpt #:	00021859

R77
NNE
1/2 - 1 Mile
Higher

CA WELLS **8004**

Seq:	8004	Prim sta c:	07S/14E-27R04 M
Frds no:	2410009017	County:	24
District:	11	User id:	AGE
System no:	2410009	Water type:	G
Source nam:	WELL 10A - DESTROYED	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	371723.0	Longitude:	1202507.0
Precision:	2	Status:	DS
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	2410009	System nam:	City Of Merced
Hqname:	Not Reported	Address:	PO BOX 2068
City:	MERCED	State:	Not Reported
Zip:	95340	Zip ext:	Not Reported

Pop serv:	60187	Connection:	14218
Area serve:	CITY OF MERCED AND VICINITY		

78
NE **CA WELLS** **CADWR9000034643**
1/2 - 1 Mile
Higher

State Well #:	07S14E27R001M	Station ID:	8099
Well Name:	Not Reported	Basin Name:	Merced
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

S79
NW **CA WELLS** **CAEDF0000100703**
1/2 - 1 Mile
Lower

Well ID:	SL185092894-2680E.CHILDS
Source:	EDF
GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=2680E.CHILDS&store_num=
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=2680E.CHILDS

Well Type:	MONITORING
Other Name:	2680E.CHILDS

R80
NNE **CA WELLS** **CADWR9000034667**
1/2 - 1 Mile
Higher

State Well #:	Not Reported	Station ID:	53780
Well Name:	2410009-017	Basin Name:	Merced
Well Use:	Public Supply	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

81
NNW **CA WELLS** **CAEDF0000002520**
1/2 - 1 Mile
Higher

Well ID:	SL185092894-MW-61A
Source:	EDF
GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-61A&store_num=
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-61A

Well Type:	MONITORING
Other Name:	MW-61A

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

R82
NNE
1/2 - 1 Mile
Higher

CA WELLS **CADDW2000022153**

GAMA:

Well ID:	CA2410009_017_017	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	2410009-017
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA2410009_017_017&store_num=		
GeoTracker Data:	Not Reported		

S83
NW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000013405**

Well ID:	SL185092894-GRANGE527	Well Type:	MONITORING
Source:	EDF	Other Name:	GRANGE527
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=GRANGE527&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=GRANGE527		

84
North
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000010576**

Well ID:	SL185092894-MW-46A	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-46A
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=MW-46A&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=MW-46A		

S85
NW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000071197**

Well ID:	SL185092894-2685E.CHILDS	Well Type:	MONITORING
Source:	EDF	Other Name:	2685E.CHILDS
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL185092894&assigned_name=2685E.CHILDS&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL185092894&assigned_name=2685E.CHILDS		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
NNE **OIL_GAS** **CAOG17000013810**
1/4 - 1/2 Mile

OIL_GAS:

API #:	0404700022	Well #:	54-34
Well Type:	Dry Hole	Well Status:	Plugged
Lease Name:	Fancher	Well Design:	Fancher 54-34
Operator ID:	A4505	Operator Name:	Atlantic Richfield Co.
Field Name:	Any Field	Area Name:	Any Area
Place:	Merced	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
Spud Date:	08/30/1953		
Well Record Request URL:	https://filerequest.conservation.ca.gov/WellRecord?api=04700022		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MERCED County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MERCED COUNTY, CA

Number of sites tested: 10

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.050 pCi/L	90%	10%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

Geothermal Wells Listing
Department of Conservation
Telephone: 916-445-9686
Geothermal well means a well constructed to extract or return water to the ground after it has been used for heating or cooling purposes. Geothermal wells in California (except for wells on federal leases which are administered by the Bureau of Land Management) are permitted, drilled, operated, and permanently sealed and closed (plugged and abandoned) under requirements and procedures administered by the Geothermal Section of the Department of Conservations Geologic Energy Management Division (CalGEM, formerly DOGGR).

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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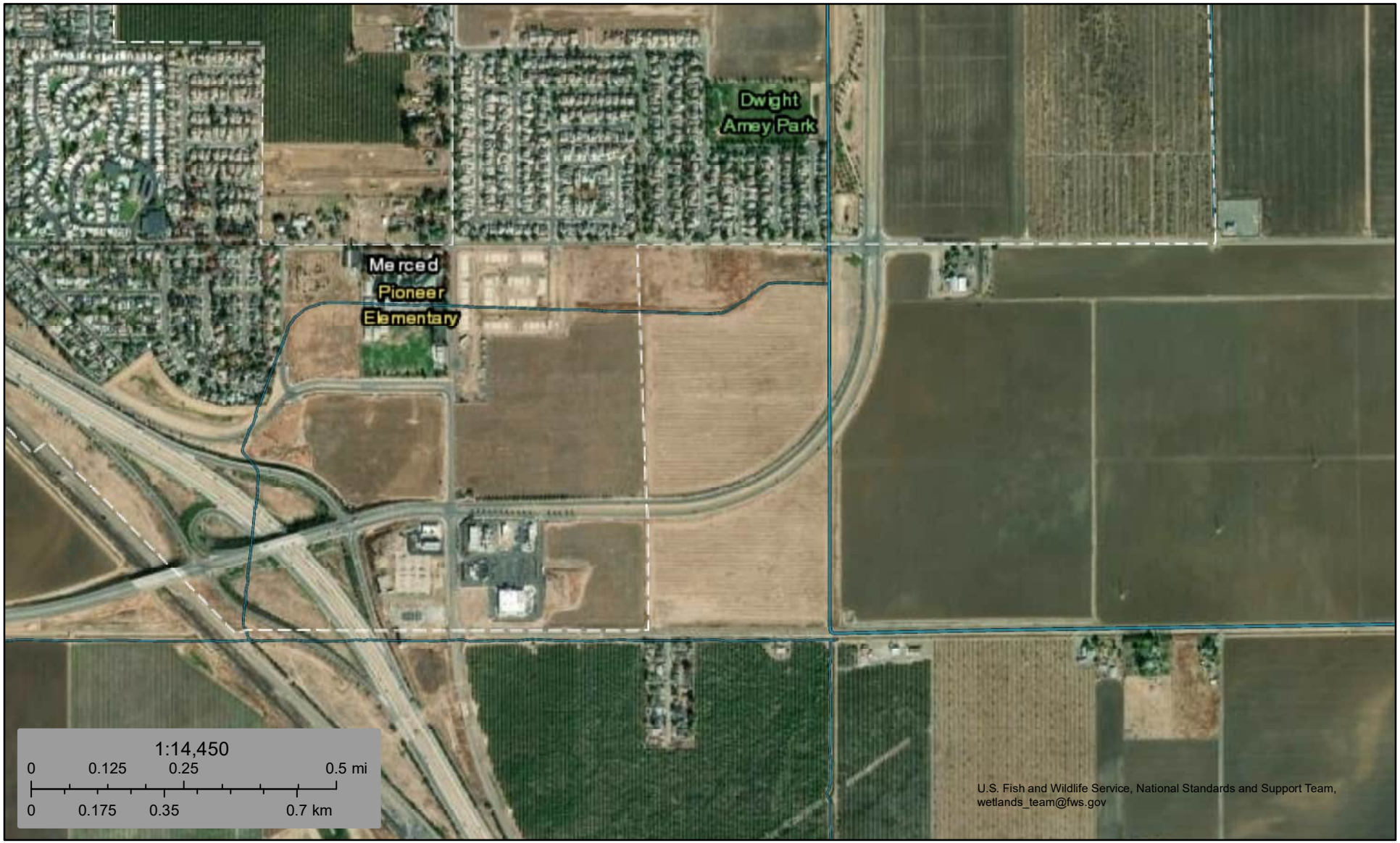
U.S. Fish and Wildlife Service
National Wetlands Inventory

Campus Gateway Development - National



May 24, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX E
WATER SUPPLY ASSESSMENT

WATER SUPPLY ASSESSMENT

LENNAR

MERCED GATEWAY

JANUARY 2025

WATER SUPPLY ASSESSMENT

MERCED GATEWAY

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January 2025

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Project #240161

Table of Contents

SECTION 1 - Introduction *1-1*

1.1 - Regulatory Requirement 1-1
1.2 - Project Description and Location 1-1
1.3 - Project Water Requirements and Setting 1-1

SECTION 2 - Water Resources/Water Supply *2-1*

2.1 - Proposed Water Supply 2-1
2.2 - Hydrologic Region 2-3
2.2.1 - Groundwater - The San Joaquin River Hydrologic Region 2-4
2.2.2 - The Merced Groundwater Subbasin 2-4
2.3 - City of Merced – 2020 UWMP 2-6

SECTION 3 - Water Supply Sufficiency *3-1*

3.1 - Physical Availability 3-1
3.2 - The 2020 City of Merced, Urban Water Management Plan – Water Years Adequacy Projections 3-1
3.2.1 - Average (or Normal) Year 3-2
3.2.2 - Single Dry Year 3-2
3.2.3 - Five Consecutive Dry-Year Reliability Assessment 3-3
3.3 - Water Supply Management 3-4

SECTION 4 - Conclusions *4-1*

SECTION 5 - References *5-1*

Appendices

Appendix A – Chapter 643, Statutes of 2001 (Senate Bill 610)
Appendix B – City of Merced, 2020 Urban Water Master Plan
Appendix C – Merced Gateway WSA – Consistency with DWR Guidelines

List of Figures

Figure 1-1 Regional Location 1-3
Figure 1-2 Project Site 1-4
Figure 1-3 Project Site – Tentative Tract Map 1-5
Figure 1-4 Project Location: San Joaquin River Hydrologic Region 1-6
Figure 1-5 Project Location: Merced Subbasin 1-7
Figure 2-1 San Joaquin Basin Prioritization 2-5

SECTION 1 - INTRODUCTION

1.1 - Regulatory Requirement

Senate Bill 610 (Chapter 643, Statutes of 2001) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to city and county decision-makers prior to approval of specified large development projects which are subject to CEQA (the California Environmental Quality Act) approval. These include residential, commercial, and industrial uses. The statute also requires this detailed information to be included in the administrative record that serves as the evidentiary basis for an entitlement action by the city or county on such projects. The statute-required water supply assessment (WSA) must examine the availability and sufficiency of an identified water supply under normal-year, single-dry-year, and multiple-dry-year conditions over a 20-year projection, accounting for the projected water demand of the Project in addition to other existing and planned future uses of the identified water supply.

The State Department of Water Resources "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" (Guidebook) and the sample format presented in the Guidebook were used as guides in preparing this water supply assessment. Pertinent excerpts from the law stipulating requirements for water supply assessments precede Sections of this report. The full text of Chapter 643, Statutes of 2001 (SB 610) is included in Appendix A.

1.2 - Project Description and Location

The Project is a 59.7-acre residential development and a 9.1-acre commercial development on a 73.7-acre site, to be developed by Lennar on a site in southeastern part of the City of Merced. The project site is bounded by E. Gerard Avenue to the north, E. Mission Avenue to the south, S. Coffee Street to the west, and Campus Parkway to the east with Campus Parkway also dissecting the project site (Figure 1-1 and Figure 1-2). The Project is within Section 32, Township 7 South, Range 14 East.

The proposed Project site is currently agriculture. The City of Merced General Plan has designated the property as Business Park. There is a land use designation amendment taking place to change the part of the project site designation to Low- Medium Density Residential, High-Medium Density Residential, and Open Space-Park/Recreation. The area planned for the commercial development will remain designated as Business Park (Figures 1-3).

The proposed project will have 587 single family lots with some commercial development.

1.3 - Project Water Requirements and Setting

Water needed for construction will be obtained from the City of Merced which obtains groundwater from wells located on land within the City. The current water distribution system is adjacent to the project site. The construction process is estimated to take place in

stages during an approximately seven-year period. During this seven-year period, it is assumed that each acre of land will require a total of one year to construct. Construction water demands are estimated to be approximately 225 gpd/acre for the duration of construction or 17.34 acre-feet, which is equivalent to approximately 5,650,200 gallons (225 gpd/acre x 68.8 total acres to be developed x 365 days per acre). Bottled drinking water will be provided for crews during construction activities.

Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, building foundations and project components, the principal use of water would be for compaction and dust control. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with construction of the buildings, internal access roads, and revegetation.

The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 137.89 million gallons per year or 492.42 acre-feet per year for the total build out of the Project. This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average in the 2020 City of Merced Urban Water Management Plan and 3.5 people per lot) across the entire buildout of 587 lots for the Project. The water demand for the 9.1-acre commercial development is estimated to be 2.16 million gallons per year or 7.71 acre-feet per year (based on a commercial water use of 650 gpd/acre).

Figures 1-4 and 1-5 illustrate the location of the Project site within the San Joaquin River Hydrologic Region, the San Joaquin Valley Groundwater Basin and the Merced Subbasin, and the borders of these water resource areas. Construction and operational water for the Project will be from sources pumping groundwater from this basin. The Merced Subbasin does not have any adjudicated areas.

Figure 1-1
Regional Location

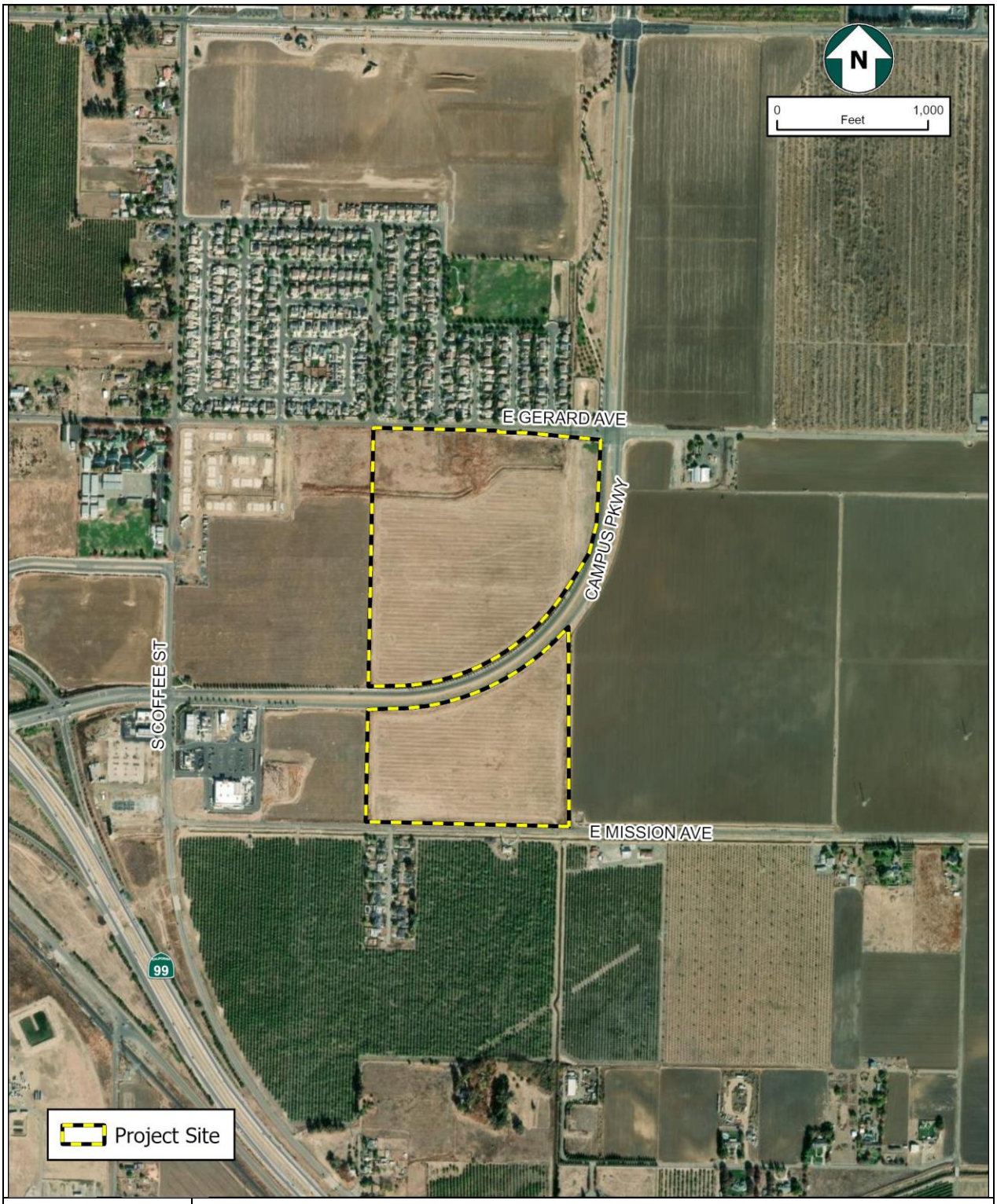

Figure 1-2
Project Site

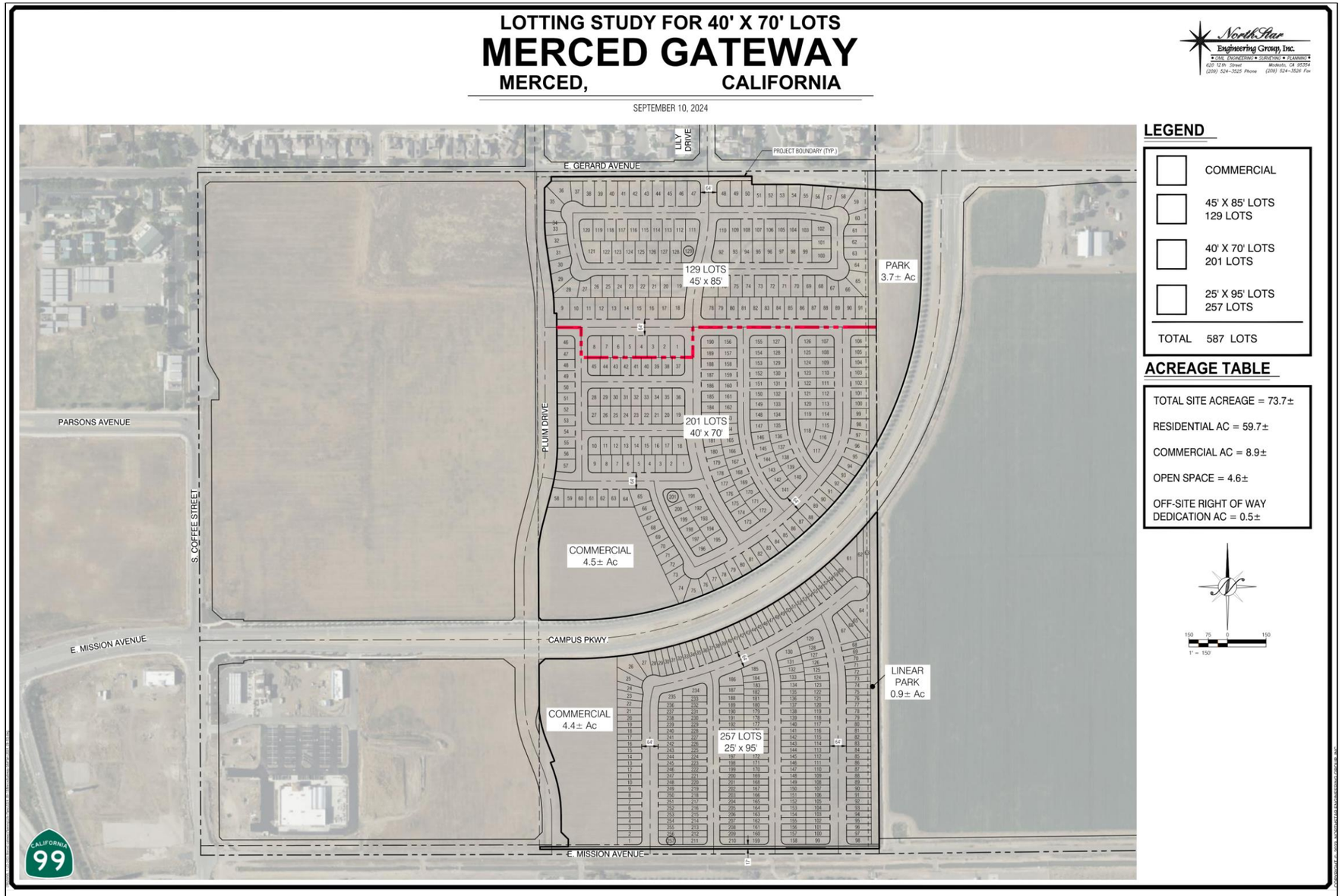

Figure 1-3
Project Site – Tentative Tract Map

Figure 1-4
Project Location: San Joaquin River Hydrologic Region

Figure 1-5
Project Location: Merced Subbasin

SECTION 2 - WATER RESOURCES/WATER SUPPLY

2.1 - Proposed Water Supply

The project will be served by a public water system as required by Water Code section 10910(b). The purpose of the Water Supply Assessment is to determine "If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g). If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

The City of Merced is required to adopt an urban water management plan since the city serves more than 3,000 connections. The 2020 UWMP will be used for this water supply assessment. The 2020 UWMP will be used to obtain the following:

> "a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project."

In making the sufficiency determination, the public water system shall include an assessment of the following from Water Code Section 10910.

Water Code Section 10910

> (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.
>
> (b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system whose service area includes the project site and any water system adjacent to the project site that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public

water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

The Project area consists of the General Plan land use of Low-Medium Density Residential, High-Medium Density Residential, Open Space-Park/Recreation and Business Park. The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 137.89 million gallons per year or 423.2 acre-feet per year for the total build out of the Project. This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average in the 2020 City of Merced Urban Water Management Plan and 3.5 people per lot) across the entire buildout of 587 lots for the Project. The water demand for the 9.1-acre commercial development is estimated to be 2.16 million gallons per year or 6.63 acre-feet per year (based on a commercial water use of 650 gpd/acre).

Project water supply during construction and for the developed properties is proposed to be from the City of Merced.

2.2 - Hydrologic Region

The Water Supply Assessment evaluates the physical availability of and adequate groundwater supply, in all "water years" for a 20-year period.

This Assessment describes the relevant Hydrologic Region, Basin, and Subbasin, describes the principal water agency (City of Merced) serving and regulating Basin water planning and surface water importation, and lists water sufficiency and planning documents regarding the Basin. Section 3 includes the latest (2020) City of Merced projection of water availability (ground) for the Basin for a 20-year period under the normal, single dry and multiple dry year scenarios, as required by SB 610.

Water Code Section 10910

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2)(A) A description of any groundwater basin or basins from which the proposed project will be supplied.

(B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.

(C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4 , information regarding the following:

(i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924 .

(ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

(D) For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4 , information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city

or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

2.2.1 - GROUNDWATER - THE SAN JOAQUIN RIVER HYDROLOGIC REGION

The California Department of Water Resources, (DWR) has divided the State into 10 Hydrologic Regions. The Project site is located within the San Joaquin River Hydrologic Region in a Basin ranked as "high priority" in a statewide ranking of groundwater importance. The Region encompasses approximately 5,246 square miles (see Figure 1-4).

2.2.2 - THE MERCED GROUNDWATER SUBBASIN

As shown in Figure 2-1, the City of Merced is located in the Merced Subbasin (DWR Subbasin 5-22.04) which is in the greater San Joaquin River hydrologic region (DWR Basin 5.22), and also within the larger San Joaquin Valley Groundwater Basin (CA Natural Resources Agency, 2018). The Merced Subbasin covers approximately 767 square miles. The Merced subbasin includes lands south of the Merced River between the San Joaquin River on the west and the crystalline basement rock of the Sierra Nevada foothills on the east. The subbasin boundary on the south stretches westerly along the Madera-Merced County line (Chowchilla River) and then between the boundary of the Le Grand-Athlone Water District and the Chowchilla Water District. The boundary continues west along the northern boundaries of Chowchilla Water District and El Nido Irrigation District. The southern boundary then follows the western boundary of El Nido I.D. south to the northern boundary of the Sierra Water District, which is followed westerly to the San Joaquin River.

Groundwater in the Basin is used for all water supply for the City of Merced. The city participates in and is a member of the Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA). The MIUGSA is part of the Merced Groundwater Subbasin Groundwater Sustainability Plan which was published in November 2019 and revised in July 2022.

Figure 2-1
San Joaquin Basin Prioritization

2.3 - City of Merced – 2020 UWMP

The proposed water for the project is located within the City of Merced Sphere of Influence. As such, the city has detailed information regarding groundwater in the area.

The city has an estimated service population of approximately 99,100 people. In 2020, approximately 20,076 acre-feet (6,542 million gallons) of water was delivered to an estimated 22,969 water service connections of which approximately 67% of the water use is for residential services. The remainder are for educational, commercial and industrial uses.

The city currently utilizes local groundwater as its source of water supply. Groundwater is extracted from 20 wells located within the city's sphere of influence.

The Planning Documents

The following documents were essential to the development of this report:

- City of Merced, 2020 Urban Water Management Plan, August 2021
- Merced Groundwater Subbasin Groundwater Sustainability Plan (GSP), November 2019, Revised July 2022
- Department of Water Resources Bulletin 118

SECTION 3 - WATER SUPPLY SUFFICIENCY

Water Code Section 10910, Section 4.5

…(c)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single, dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

The sufficiency of the Project water supply is analyzed on two bases: the physical availability of the city to provide water in the amounts required for Project construction and operation; and the estimates (in the 2020 City of Merced Urban Water Management Plan) of normal water years, single dry water year and multiple dry water years, water supply and demand-related water availability with respect to projected water demand during a 20-year projection. The city is a participant in the Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA). The MIUGSA is part of the Merced Groundwater Subbasin Groundwater Sustainability Plan which was published in November 2019 and revised in July 2022.

3.1 - Physical Availability

The information regarding the physical availability of water at and near to the Project site supports the conclusion that the groundwater aquifer pumping history are sufficient for both Project construction and Project operation and that there will be sufficient water to serve project needs for 20 years under the water scenarios described below.

3.2 - The 2020 City of Merced, Urban Water Management Plan – Water Years Adequacy Projections

The following text excerpted from the Urban Water Management Plan illustrates the total groundwater resources available to the City, and the projected usage demand on such supplies through 2040. The following text extract (Section 7.1.3.3 of the UWMP) explains the city water supply adequacy:

> *Per CWC [California Water Code] Section 10612, the five-consecutive-year drought is the driest five-year historical sequence for the Supplier. The City's water supply and demand for the five-consecutive-year drought are assumed to follow the pattern presented in Table 7-1 (DWR Table 7-1). As shown in Table 7-4 (DWR Table 7-4* [Table 3-3 in this report]*), the City's five-consecutive-year drought supplies are adequate to meet projected demands.*

The following tables from the 2020 City of Merced Urban Water Master Plan show the supply and demand comparisons for a normal year, single dry year, and five consecutive dry years.

3.2.1 - AVERAGE (OR NORMAL) YEAR

Normal year supply and demand projections and differences are presented in Table 3-1 (Table 7-2 in UWMP).

Table 3-1
Normal Year Supply and Demand Comparison (AF)

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	24,418	26,751	28,995	31,825	0
Demand totals *(autofill from Table 4-3)*	24,418	26,751	28,995	31,825	0
Difference	0	0	0	0	0

As shown in Table 3-1, future water supplies are anticipated to be meet.

3.2.2 - SINGLE DRY YEAR

Projected supplies were compared to the increased demands for a single-dry year and are presented in Table 3-2 (Table 7-3 in UWMP).

Table 3-2
Retail: Single Dry Year Supply and Demand Comparison (AF)

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	29,301	32,101	34,794	38,190	
Demand totals*	29,301	32,101	34,794	38,190	
Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES: Supply total is equal to projected Normal Year supply multiplied by 120% per DWR Table 7-1 estimates. Supply total is assumed to match with Demand total because groundwater pumping will operate to meet demands.					

As shown in Table 3-2, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under single-year drought conditions.

3.2.3 - Five Consecutive Dry-Year Reliability Assessment

Projected supplies were compared to the increased demands for five-consecutive dry-year scenarios and are presented in Table 3-3 (Table 7-4 in UWMP).

Table 3-3
Retail: Five Consecutive Dry Years Supply and Demand Comparison (AF)

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	26,860	29,426	31,895	35,008	
	Demand totals	26,860	29,426	31,895	35,008	
	Difference	0	0	0	0	0
Second year	Supply totals	29,301	32,101	34,794	38,190	
	Demand totals	29,301	32,101	34,794	38,190	
	Difference	0	0	0	0	0
Third year	Supply totals	26,860	29,426	31,895	35,008	
	Demand totals	26,860	29,426	31,895	35,008	
	Difference	0	0	0	0	0
Fourth year	Supply totals	19,534	21,401	23,196	25,460	
	Demand totals	19,534	21,401	23,196	25,460	
	Difference	0	0	0	0	0
Fifth year	Supply totals	19,534	21,401	23,196	25,460	
	Demand totals	19,534	21,401	23,196	25,460	
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Supply totals are equal to projected Normal Year supply multiplied by % Average Supply Factors in DWR Table 7-1. Supply total is assumed to match with Demand total because groundwater pumping will operate to meet demands.						

As shown in Table 3-3, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under multiple-dry year drought conditions.

The long-term average day operational water demand will be for the residential and commercial users and is anticipated to be approximately 137.89 million gallons per year or 423.2 acre-feet per year for the total build out of the Project. This is based on each residential unit having an average day water demand of 633.5 gallons per day (based on the 181-gallon per capita/day average in the 2020 City of Merced Urban Water Management Plan and 3.5 people per lot) across the entire buildout of 587 lots for the Project. The water demand for the 9.1-acre commercial development is estimated to be 2.16 million gallons per year or 6.63 acre-feet per year (based on a commercial water use of 650 gpd/acre).

The Project is within the City limits and growth within the City limits is what the UWMP considered in growth from 2025 to 2040. The Project water demand is included in the projected increase in water demand if a fifth dry year of 19,534 AF from 2025 to 25,460 AF 2040 (Table 3-3). The Project long-term operational water demand is 1.66% (423.2 AF/25,460 AF) of the available water supply in the city.

The tables and accompanying text indicate that the responsible water agency for the Project area has taken appropriate steps to assure that the total water supply for the service area will be adequate.

3.3 - Water Supply Management

The California Department of Water Resources has defined the Merced Subbasin as "critically overdrafted". Overdraft occurs where the average annual amount of groundwater extraction exceeds the long-term average annual supply of water to the basin. Sustainable yield is defined as the amount of groundwater pumping that can occur while maintaining groundwater at sustainable levels and avoiding undesirable results. The Merced Subbasin GSP estimates the sustainable yield of the subbasin at 570,000 acre-feet/year. The GSP estimates an overdraft of approximately 0.3%.

According to the Merced Subbasin GSP, there are several projects within the City of Merced's geographic area that may be implemented to offset a portion of the GSA's groundwater extraction and eliminate long term overdraft of the Merced subbasin. According to the GSP, each project with be implemented either by the City of Merced or members of the GSP. The projects will primarily help stabilize groundwater levels and increase the amount of groundwater in storage. Additionally, the projects can also provide groundwater quality benefits and/or reduce land subsidence. The GSP estimates that these projects would bring the subbasin into balance (inflow equaling outflow) when fully implemented as envisioned.

The Project is accounted for in the UWMP and the UWMP is in agreement with the Merced Subbasin GSP. Because of this, the Project water demand is available from the groundwater in the area.

SECTION 4 - CONCLUSIONS

This Water Supply Assessment has provided the data and analysis needed to verify that a sufficient Project water supply is physically available (Section 3.1) through 2040, and that the Project water supply is in accord with SB 610's normal year/dry year/multiple dry year requirements, sufficient (Section 3.2).

It is recommended that the City of Merced conclude that the proposed water supplies for the Project be found sufficient to meet the projected Project water demands.

SECTION 5 - REFERENCES

2003. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. (online): http://www.water.ca.gov/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf. Accessed February 1, 2021

California Department of Water Resources (DWR). 2015. California's Groundwater Bulletin 118.135 p.

City of Merced, 2020 Urban Water Management Plan

Merced SGMA, November 2019 (Revised July 2022) Merced Groundwater Subbasin Groundwater Sustainability Plan

APPENDIX A

CHAPTER 643, STATUTES OF 2001 (SENATE BILL 610)

Senate Bill No. 610
CHAPTER 643

An act to amend Section 21151.9 of the Public Resources Code, and to amend Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, to repeal Section 10913 of, and to add and repeal Section 10657 of, the Water Code, relating to water.

[Filed with Secretary of State October 09, 2001. Approved by Governor October 09, 2001.]

LEGISLATIVE COUNSEL'S DIGEST

SB 610, Costa. Water supply planning.

(1) Existing law requires every urban water supplier to identify, as part of its urban water management plan, the existing and planned sources of water available to the supplier over a prescribed 5-year period. Existing law prohibits an urban water supplier that fails to prepare or submit its urban water management plan to the Department of Water Resources from receiving drought assistance from the state until the plan is submitted.

This bill would require additional information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. The bill would require an urban water supplier to include in the plan a description of all water supply projects and programs that may be undertaken to meet total projected water use. The bill would prohibit an urban water supplier that fails to prepare or submit the plan to the department from receiving funding made available from specified bond acts until the plan is submitted. The bill, until January 1, 2006, would require the department to take into consideration whether the urban water supplier has submitted an updated plan, as specified, in determining eligibility for funds made available pursuant to any program administered by the department.

(2) Existing law, under certain circumstances, requires a city or county that determines an environmental impact report is required in connection with a project, as defined, to request each public water system that may supply water for the project to assess, among other things, whether its total projected water supplies will meet the projected water demand associated with the proposed project. Existing law requires the public water system to submit the assessment to the city or county not later than 30 days from the date on which the request was received and, in the absence of the submittal of an assessment, provides that it shall be assumed that the public water system has no information to submit. Existing law makes legislative findings and declarations concerning "Proposition C," a measure approved by the voters of San Diego County relating to regional growth management, and provides that the procedures established by a specified review board established in connection with that measure are deemed to comply with the requirements described above relating to water supply planning by a city or county.

This bill would revise those provisions. The bill, instead, would require a city or county that determines a project is subject to the California Environmental Quality Act to identify any public water system that may supply water for the project and to request those public water systems to

prepare a specified water supply assessment, except as otherwise specified. The bill would require the assessment to include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The bill would require the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. The bill would revise the definition of "project," for the purposes of these provisions, and make related changes.

The bill would prescribe a timeframe within which a public water system is required to submit the assessment to the city or county and would authorize the city or county to seek a writ of mandamus to compel the public water system to comply with requirements relating to the submission of the assessment.

The bill would require the public water system, or the city or county, as applicable, if that entity concludes that water supplies are, or will be, insufficient, to submit the plans for acquiring additional water supplies.

The bill would require the city or county to include the water supply assessment and certain other information in any environmental document prepared for the project pursuant to the act. By establishing duties for counties and cities, the bill would impose a state-mandated local program.

The bill would provide that the County of San Diego is deemed to comply with these water supply planning requirements if the Office of Planning and Research determines that certain requirements have been met in connection with the implementation of "Proposition C."

(3) The bill would incorporate additional changes in Section 10631 of the Water Code proposed by AB 901, to be operative only if this bill and AB 901 are enacted and become effective on or before January 1, 2002, each bill amends Section 10631 of the Water Code, and this bill is enacted last.
(4) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

DIGEST KEY

BILL TEXT

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1.

(a) The Legislature finds and declares all of the following:

(1) The length and severity of droughts in California cannot be predicted with any accuracy.

(2) There are various factors that affect the ability to ensure that adequate water supplies are available to meet all of California's water demands, now and in the future.

(3) Because of these factors, it is not possible to guarantee a permanent water supply for all water users in California in the amounts requested.

(4) Therefore, it is critical that California's water agencies carefully assess the reliability of their water supply and delivery systems.

(5) Furthermore, California's overall water delivery system has become less reliable over the last 20 years because demand for water has continued to grow while new supplies have not been developed in amounts sufficient to meet the increased demand.

(6) There are a variety of measures for developing new water supplies including water reclamation, water conservation, conjunctive use, water transfers, seawater desalination, and surface water and groundwater storage.

(7) With increasing frequency, California's water agencies are required to impose water rationing on their residential and business customers during this state's frequent and severe periods of drought.

(8) The identification and development of water supplies needed during multiple-year droughts is vital to California's business climate, as well as to the health of the agricultural industry, environment, rural communities, and residents who continue to face the possibility of severe water cutbacks during water shortage periods.

(9) A recent study indicates that the water supply and land use planning linkage, established by Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code, has not been implemented in a manner that ensures the appropriate level of communication between water agencies and planning agencies, and this act is intended to remedy that deficiency in communication.

(b) It is the intent of the Legislature to strengthen the process pursuant to which local agencies determine the adequacy of existing and planned future water supplies to meet existing and planned future demands on those water supplies.

SEC. 2.

Section 21151.9 of the Public Resources Code is amended to read:

21151.9.

Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division, it shall comply with Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code.

SEC. 3.

Section 10631 of the Water Code is amended to read:

10631.

A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of such savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 3.5.

Section 10631 of the Water Code is amended to read:

10631.

A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that

characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed

description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 4.

Section 10656 of the Water Code is amended to read:

10656.

An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

SEC. 4.3.

Section 10657 is added to the Water Code, to read:

10657.

(a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

SEC. 4.5.

Section 10910 of the Water Code is amended to read:

10910.

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water

systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

SEC. 5.

Section 10911 of the Water Code is amended to read:

10911.

(a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

SEC. 6.

Section 10912 of the Water Code is amended to read:

10912.

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

SEC. 7.

Section 10913 of the Water Code is repealed.

SEC. 8.

Section 10915 of the Water Code is amended to read:

10915.

The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

SEC. 9.

Section 3.5 of this bill incorporates amendments to Section 10631 of the Water Code proposed by both this bill and AB 901. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 2002, (2) each bill amends Section 10631 of the Water Code, and (3) this bill is enacted after AB 901, in which case Section 3 of this bill shall not become operative.

SEC. 10.

No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

APPENDIX B

2020 CITY OF MERCED, URBAN WATER MANAGEMENT PLAN

City of Merced

2020 Urban Water Management Plan

FINAL

AUGUST 2021

Prepared for:
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CITY OF MERCED
2020 URBAN WATER MANAGEMENT PLAN

CONTACT SHEET

Date plan adopted: August 16, 2021

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TABLE OF CONTENTS

1 UWMP Introduction and Lay Description 1-1
1.1 Background and Purpose 1-1
1.2 Previous Urban Water Management Plan 1-1
1.3 Urban Water Management Planning and the California Water Code 1-1
1.3.1 Urban Water Management Planning Act of 1983 1-2
1.3.2 Applicable Changes to the Water Code since 2015 UWMPs 1-2
1.4 UWMPs in Relation to Other Planning Efforts 1-3
1.5 UWMP Organization 1-4
1.6 Lay Description 1-5
2 Plan Preparation 2-1
2.1 Basis for Preparing a Plan 2-1
2.1.1 Public Water Systems 2-1
2.2 Individual Planning and Compliance 2-2
2.3 Fiscal or Calendar Year and Units of Measure 2-3
2.4 Coordination and Outreach 2-4
2.4.1 Wholesale and Retail Coordination 2-4
2.4.2 Coordination with Other Agencies and the Community 2-5
2.4.3 Notice to Cities and Counties 2-6
3 System Description 3-1
3.1 General Description 3-1
3.2 Service Area Boundary Maps 3-2
3.3 Service Area Climate 3-5
3.4 Service Area Population and Demographics 3-6
3.4.1 Service Area Population 3-6
3.4.2 Other Social, Economic, and Demographic Factors 3-7
3.5 Land Uses within Service Area 3-7
4 Water Use Characterization 4-1
4.1 Non-Potable versus Potable Water Use 4-1
4.2 Past, Current, and Projected Water Use by Sector 4-1
4.2.1 Water Use Sectors Listed in Water Code 4-2
4.2.2 Water Use Sectors in Addition to Those Listed in Water Code 4-2
4.2.3 Past Water Use 4-2
4.2.4 Distribution System Water Loss 4-3
4.2.5 Current Water Use 4-4
4.2.6 Projected Water Use 4-6
4.2.7 Characteristic Five-Year Water Use 4-8
4.3 Water Use for Lower Income Households 4-9
4.4 Climate Change Considerations 4-11
5 SB X7-7 Baselines, Targets, and 2020 Compliance 5-1
5.1 Baseline and Target Calculations for 2020 UWMPs 5-1
5.2 Methods for Calculating Population and Gross Water Use 5-2
5.2.1 Service Area Population 5-2

5.3 Gross Water Use 5-2
5.4 2020 Compliance Daily Per-Capita Water Use (GPCD) 5-3
5.5 Regional Alliance 5-4
6 Water Supply Characterization 6-1
6.1 Narrative Sections for Supplier's UWMP Water Supply Characterization 6-1
6.1.1 Purchased or Imported Water 6-1
6.1.2 Groundwater 6-2
6.1.2.1 Groundwater Sustainability Plan 6-2
6.1.2.2 Groundwater Basin Description 6-3
6.1.2.3 Past Five Years 6-5
6.1.3 Surface Water 6-5
6.1.4 Stormwater 6-5
6.1.5 Wastewater and Recycled Water 6-6
6.1.5.1 Recycled Water Coordination 6-6
6.1.5.2 Wastewater Collection, Treatment, and Disposal 6-7
6.1.5.3 Recycled Water System Description 6-9
6.1.5.4 Potential, Current, and Projected Recycled Water Uses 6-9
6.1.5.5 Actions to Encourage and Optimize Future Recycled Water Use 6-11
6.1.6 Desalinated Water Opportunities 6-11
6.1.7 Water Exchanges and Transfers 6-12
6.1.7.1 Exchanges 6-12
6.1.7.2 Transfers 6-12
6.1.8 Future Water Projects 6-12
6.1.9 Summary of Existing and Planned Sources of Water 6-13
6.1.9.1 Description of Supplies 6-14
6.1.9.2 Quantification of Supplies 6-14
6.1.10 Special Conditions 6-15
6.2 Energy Use 6-15
7 Water Service Reliability and Drought Risk Assessment 7-1
7.1 Water Service Reliability Assessment 7-1
7.1.1 Service Reliability – Constraints on Water Sources 7-1
7.1.1.1 Legal 7-1
7.1.1.2 Environmental 7-2
7.1.1.3 Water Quality 7-2
7.1.1.4 Climatic Factors 7-2
7.1.2 Service Reliability – Year Type Characterization 7-2
7.1.3 Service Reliability – Supply and Demand Comparison 7-5
7.1.3.1 Water Service Reliability – Normal Year 7-5
7.1.3.2 Water Service Reliability – Single Dry Year 7-5
7.1.3.3 Water Service Reliability – Five-Consecutive-Year Drought 7-6
7.1.4 Description of Management Tools and Options 7-8
7.2 Drought Risk Assessment 7-8
7.2.1 DRA Data, Methods, and Basis for Water Shortage Conditions 7-9
7.2.2 DRA Water Source Reliability 7-9
7.2.3 DRA Total Water Supply and Use Comparison 7-9

8 Water Shortage Contingency Plan 8-1
9 Demand Management Measures 9-1
9.1 Existing Demand Management Measures for Retail Suppliers 9-1
9.1.1 Water Waste Prohibition Ordinances 9-2
9.1.2 Metering 9-2
9.1.3 Conservation Pricing 9-3
9.1.4 Public Education and Outreach 9-3
9.1.5 Programs to Assess and Manage Distribution System Real Loss 9-3
9.1.6 Water Conservation Program Coordination and Staffing Support 9-4
9.1.7 Other Demand Management Measures 9-4
9.1.7.1 Residential Plumbing Retrofit 9-4
9.1.7.2 Washing Machine Rebate 9-4
9.1.7.3 Commercial, Industrial, and Institutional Conservation Programs 9-4
9.1.7.4 Turf Replacement Initiative 9-4
9.2 Reporting Implementation 9-5
9.2.1 Implementation over the Past Five Years 9-5
9.2.2 Implementation to Achieve Water Use Targets 9-5
10 Plan Adoption, Submittal, and Implementation 10-1
10.1 Inclusion of All 2020 Data 10-1
10.2 Notice of Public Hearing 10-1
10.2.1 Notice to Cities and Counties 10-1
10.2.2 Notice to the Public 10-2
10.3 Public Hearing and Adoption 10-3
10.3.1 Public Hearing 10-3
10.3.2 Adoption 10-3
10.4 Plan Submittal 10-4
10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR 10-4
10.4.2 Electronic Data Submittal 10-4
10.4.3 Submitting a UWMP, including WSCP, to the California State Library 10-4
10.4.4 Submitting a UWMP to Cities and Counties 10-4
10.5 Public Availability 10-5
10.6 Notification to Public Utilities Commission 10-5
10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan 10-5
10.7.1 Amending a UWMP 10-5
10.7.2 Amending a Water Shortage Contingency Plan 10-6
11 References 11-1

LIST OF TABLES

Table 1-1 – Applicable Changes to the CWC Since 2015 1-3
Table 2-1 – Public Water Systems (DWR Table 2-1) 2-2
Table 2-2 – Plan Identification Type (DWR Table 2-2) 2-2
Table 2-3 – Supplier Identification (DWR Table 2-3) 2-3
Table 2-4 – Water Supplier Information Exchange (DWR Table 2-4) 2-4
Table 2-5 – UWMP Coordination 2-5
Table 3-1 – City of Merced Climate Data 3-5
Table 3-2 – Population – Current and Projected (DWR Table 3-1) 3-6
Table 3-3 – Current and Projected Population by Category 3-7
Table 4-1 – Past Water Use (2016-2019) 4-3
Table 4-2 – Last Five Years of Water Loss Audit Reporting (DWR Table 4-4) 4-4
Table 4-3 – Demands for Potable and Non-Potable Water – Actual (DWR Table 4-1) 4-5
Table 4-4 – Use for Potable and Non-Potable Water – Projected (DWR Table 4-2) 4-7
Table 4-5 – Total Water Use (Potable and Non-Potable) (DWR Table 4-3) 4-8
Table 4-6 – Characteristic Five-Year Water Use 4-9
Table 4-7 – City of Merced Lower Income Household Water Demands 4-10
Table 4-8 – Inclusion in Water Use Projections (DWR Table 4-5) 4-10
Table 5-1 – Baselines and Targets Summary from SB X7-7 Verification Form (DWR Table 5-1) 5-1
Table 5-2 – 2020 Compliance (DWR Table 5-2) 5-3
Table 6-1 – Groundwater Volume Pumped (DWR Table 6-1) 6-5
Table 6-2 – Wastewater Collected within Service Area in 2020 (DWR Table 6-2) 6-8
Table 6-3 – Wastewater Treatment and Discharge within Service Area in 2020 (DWR Table 6-3) 6-8
Table 6-4 – Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4 R) 6-10
Table 6-5 – 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5 R) ... 6-10
Table 6-6 – Methods to Expand Future Recycled Water Use (DWR Table 6-6) 6-11
Table 6-7 – Expected Future Water Supply Projects or Program (DWR Table 6-7) 6-13
Table 6-8 – Water Supplies – Actual (DWR Table 6-8) 6-14
Table 6-9 – Water Supplies – Projected (DWR Table 6-9) 6-15
Table 7-1 – Basis of Water Year Data (DWR Table 7-1) 7-4
Table 7-2 – Normal Year Supply and Demand Comparison (DWR Table 7-2) 7-5
Table 7-3 – Single Dry Year Supply and Demand Comparison (DWR Table 7-3) 7-6
Table 7-4 – Multiple Dry-Year Supply and Demand Comparison (DWR Table 7-4) 7-7
Table 7-5 – Five-Year Drought Risk Assessment Tables (DWR Table 7-5) 7-10
Table 9-1 – Water Rate Schedule 9-3
Table 10-1 – Notification to Cities and Counties (DWR Table 10-1) 10-2

LIST OF FIGURES

Figure 3-1 – Regional Location Map 3-3
Figure 3-2 – Service Area Map 3-4
Figure 3-3 – General Plan Land Use 3-9
Figure 6-1 – Groundwater Basins and Subbasins 6-4

APPENDICES

Appendix A – DWR UWMP Tables
Appendix B – DWR UWMP Checklist
Appendix C – Notice of Preparation and Outreach Documents
Appendix D – Water Loss Audits
Appendix E – Planning Tool
Appendix F – SB X7-7 2015 Verification Form and 2020 Compliance Form
Appendix G – Energy Use Tables
Appendix H – 2019 Consumer Confidence Report
Appendix I – Water Shortage Contingency Plan
Appendix J – Ordinance No. 2526, Water Conservation
Appendix K – Water Rate Schedule
Appendix L – UWMP Adoption Resolution

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LIST OF ACRONYMS AND ABBREVIATIONS

2030 General Plan	Merced Vision 2030 General Plan
AB	Assembly Bill
AF	Acre feet
AFY	Acre feet per year
Black Water	Black Water Consulting Engineers, Inc.
BMP	Best Management Practice
CCR	Consumer Confidence Report
CII	Commercial, Industrial, and Institutional sector
CIMIS	California Irrigation Management Information System
City	City of Merced
County	Merced County
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DMM	Demand Management Measures
DOF	California Department of Finance
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
ETo	Evapotranspiration
gpcd	gallons per capita per day
gpm	gallons per minute
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCF	Hundred Cubic Feet
LAA	Land Application Areas
Legislature	State of California Legislature
MCAG	Merced County Association of Governments
MCL	Maximum Contaminant Level
MG	Million gallons
mgd	Million gallons per day
MID	Merced Irrigation District
MIRWMP	Merced Integrated Regional Water Management Plan Update
MIUGSA	Merced Irrigation-Urban GSA
MMC	Merced Municipal Code
MOU	Memorandum of Understanding
PCE	Perchloroethylene
SB	Senate Bill
SB X7-7	Water Conservation Bill of 2009
SGMA	Sustainable Groundwater Management Act
SOI	Sphere of influence
State Water Board	State Water Resources Control Board
SUDP	Specific Urban Development Plan
SWTP	Surface Water Treatment Plant
TCP	1,2,3-Trichloropropane
UC Merced	University of California at Merced

UWMP	Urban Water Management Plan
UWMP Guidebook	2020 Urban Water Management Plan Guidebook for Urban Water Suppliers
UWMPA	Urban Water Management Plan Act
Water Master Plan	Water Master Plan Update
WMA	Wildlife Management Area
WSCP	Water Shortage Contingency Plan
WWTF	Wastewater Treatment Facility

1 UWMP Introduction and Lay Description

1.1 Background and Purpose

Legal Requirements:

CWC Section 10615:
"Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

The California Water Code (CWC) requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to the California Department of Water Resources (DWR). The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983 including amendments that have been made to the Act and other applicable regulations. The UWMPA requires urban water suppliers servicing 3,000 or more connections or supplying more than 3,000 acre-feet (AF) of water annually, to prepare an UWMP.

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions. This plan, which was prepared in compliance with the CWC, and as set forth in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers (May 2021) established by DWR (UWMP Guidebook), constitutes the City of Merced (City) 2020 UWMP. This 2020 UWMP was prepared in compliance with the UWMPA and the Water Conservation Bill of 2009 (Senate Bill [SB] X7-7) by Black Water Consulting Engineers, Inc. (Black Water) and the City.

1.2 Previous Urban Water Management Plan

The City previously updated their 2015 UWMP in November 2017. Following adoption, the 2015 UWMP was submitted to and approved by DWR. This 2020 UWMP serves as an update to the 2015 UWMP and complies with all new UWMP requirements and regulations.

1.3 Urban Water Management Planning and the California Water Code

This section summarizes the CWC sections that are applicable to UWMPs.

1.3.1 Urban Water Management Planning Act of 1983

In 1983, State Assembly Bill (AB) 797 modified the CWC Division 6, by creating the UWMPA. Several amendments to the original UWMPA, which were introduced since 1983, have increased the data requirements and planning elements to be included in UWMPs. Initial amendments to the UWMPA required that total projected water use be compared to water supply sources over the next 20 years, in 5-year increments. Recent DWR guidelines also suggest projecting through a 25-year planning horizon to maintain a 20-year timeframe until the next UWMP update has been completed. This is merely a guideline and not a requirement of the UWMPA. Therefore, the use of a 25-year planning horizon as opposed to a 20-year planning horizon is left up to the discretion of the agency. The City has opted to use a 20-year planning horizon for the purposes of this UWMP.

1.3.2 Applicable Changes to the Water Code since 2015 UWMPs

Since the UWMPA was passed, the CWC has undergone significant expansion and revision since the 2015 UWMP was prepared. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions not only affect each Supplier's water reliability determinations, but also the broad picture of statewide water reliability overseen by DWR, the State Water Resources Control Board (State Water Board), and the State of California Legislature (Legislature). Accordingly, the UWMPA has grown to address changing conditions. Applicable changes to the CWC since the completion of the City's 2015 UWMP are summarized in **Table 1-1**.

Table 1-1 – Applicable Changes to the CWC Since 2015

Topic	CWC Sections	Legislative Bill	Summary
Five Consecutive Dry-Year Water Reliability Assessment	10635(a) and (b)	SB 606, 2019	The Legislature modified the dry-year water reliability planning from a "multiyear" time period to a "drought lasting five consecutive water years" designation.
Drought Risk Assessment	10635(b)	SB 606, 2019	The Drought Risk Assessment (DRA) requires a Supplier to assess water supply reliability over a five-year period from 2021 to 2025.
Seismic Risk	10632.5	SB 664, 2016	Requires the UWMP to address seismic risk to various water system facilities and have a mitigation plan.
Energy Use	10631.2(a)	SB 606, 2018	Requires Suppliers to include readily obtainable information on estimated amounts of energy use for their water supply extraction, treatment, distribution, storage, conveyance, and other water uses.
Water Loss Reporting for Five Years	10631(d)	AB 1414, 2019	Requires inclusion of the past five years of water loss audit reports in UWMPs.
Water Shortage Contingency Plan (WSCP)	10632	SB 606, 2019	Suppliers are required to prepare and adopt a WSCP.
Groundwater Supplies Coordination	10631	AB 1414, 2019	Requires UWMPs to be consistent with Groundwater Sustainability Plans (GSPs)
Lay Description	10630.5	SB 606, 2019	Requires inclusion of a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

1.4 UWMPs in Relation to Other Planning Efforts

The City is committed to providing a reliable and high-quality water supply to its customers. To ensure that the City will be able to continue to reliably serve the residents of Merced in the future, the City has conducted/participated in several important planning efforts that relate to water supply planning and are related to the UWMP. Some of the most recent water planning efforts are summarized below:

- **Merced Vision 2030 General Plan:** In January 2012, the City adopted an update to its General Plan that guides land use and development for the Merced Planning through the year 2030. The General Plan focuses on the preservation and enhancement of the existing community while guiding urban growth and allowing the continued development of the University of California, Merced (UC Merced).

- **Water Master Plan Update (Water Master Plan):** The City updated its Water Master Plan in 2017, which was previously developed in 2007. The Master Plan Update sets the foundation for the City to expand its water system to meet the needs of its growing population through the planning horizon of the General Plan.
- **Merced Integrated Regional Water Management Plan Update:** The Merced Integrated Regional Water Management Plan Update (MIRWMP) was a collaborative effort to identify water management issues, needs, objectives, actions, and priorities to meet the long-term water needs of the Merced Region.
- **Merced Subbasin Groundwater Sustainability Plan:** The Merced Subbasin Groundwater Sustainability Plan (GSP) was published in November 2019. The goal of the GSP is to bring the Merced Subbasin, which is a DWR-designated critically overdrafted basin, into sustainable groundwater management by 2040.

1.5 UWMP Organization

This 2020 UWMP contains the appropriate sections and tables required per CWC Division 6, Part 2.6 (Urban Water Management Planning Act) and has been prepared based on guidance provided by the DWR 2020 UWMP Guidebook. The required tables are included in the relevant sections and in **Appendix A**.

DWR's UWMP Checklist, as provided in the DWR 2020 UWMP Guidebook, has been completed to demonstrate the UWMP's compliance with applicable requirements. A copy of the completed checklist is included in **Appendix B**. This plan is organized according to the recommended format provided in the DWR's 2020 UWMP Guidebook. The UWMP contains ten chapters, followed by appendices that provide supporting documentation for the information presented in the plan. The chapters are outlined below:

- **Chapter 1 - UWMP Introduction and Lay Description:** This chapter provides background information for the 2020 UWMP and provides a description of the purpose of the plan.
- **Chapter 2 - Plan Preparation:** This chapter includes information on the development of the 2020 UWMP and efforts in coordination and outreach.
- **Chapter 3 - System Description:** This chapter describes the service area, population, and climate; presents an overview of the City's water distribution system; and describes the City's organizational structure and history.
- **Chapter 4 - Water Use Characterization:** This chapter describes and quantifies the current and projected water uses within the City's service area.
- **Chapter 5 - SB X7-7 Baseline and Targets, and 2020 Compliance:** This chapter describes the methods for calculating baseline and target water use consumption in the City. It also includes a calculation of the City's 2020 water use and determination of compliance with the 2020 target water use.
- **Chapter 6 - Water Supply Characterization:** This chapter describes the current and projected sources of water available to the City. A description of potential recycled water use and supply availability is also included in this chapter.
- **Chapter 7 - Water Service Reliability and Drought Risk Assessment**: This chapter describes the reliability of the City's current supply and evaluates the reliability 20 years out, including normal, single-dry years, and five consecutive dry years.
- **Chapter 8 - Water Shortage Contingency Plan:** This chapter references the City's Water Shortage Contingency Plan (WSCP) which is provided as an appendix.

- **Chapter 9 - Demand Management Measures**: This chapter describes the City's efforts to promote conservation, reduce water demand, and describes the City's demand management measures.
- **Chapter 10 - Plan Adoption, Submittal, and Implementation**: This chapter describes the steps taken to adopt and submit the 2020 UWMP and make it publicly available. This chapter will also describe the City's plan to implement the UWMP.

1.6 Lay Description

Legal Requirements:

CWC Section 10630.5:
Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

The UWMP describes the City's water system, characterizes water use, describes the water supply sources for the City, and analyzes the reliability of the City's water service for normal, dry, and 5-year drought conditions for the next twenty years. To further improve the reliability of the City's water system, the WSCP identifies strategies to implement during water shortages and describes procedures for identifying the potential of a water shortage in the current year.

The City water system has 20 groundwater wells with a total well capacity of 54,400 gpm. In 2020, the City supplied 20,076 AF of potable water and 4,050 AF of recycled water. Potable water demands are projected to increase to 31,825 AF by 2040 due to increases in the City and UC Merced population. The City's water supply is projected to sufficiently meet expected demands through 2040 through the installation of additional groundwater wells and construction of a 10 million gallon per day (mgd) surface water treatment plant (SWTP). The SWTP is projected to use surface water supplied by Merced Irrigation District (MID) and begin operation by 2030.

The Merced groundwater basin, which is currently the City's only water source, is a high priority basin and is critically overdrafted. The addition of surface water to the City's water portfolio, continued implementation of water conservation measures, and participation in regional activities to address the sustainable management of the groundwater basin, are critical components for the long-term reliability of the City's water system.

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2 Plan Preparation

This chapter presents information on the development of the 2020 UWMP, including coordination and outreach efforts.

2.1 Basis for Preparing a Plan

Legal Requirements:

CWC Section 10617:
"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems.

CWC Section 10620:
(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

CWC Section 10621:
(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

2.1.1 Public Water Systems

The CWC defines an urban water supplier as "a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or supplies more than 3,000 acre-feet (AF) of potable water annually at retail for municipal purposes." **Table 2-1 (DWR Table 2-1)** documents the number of municipal connections and the volume of water supplied in 2020. The City is considered an urban retail water supplier.

Table 2-1 – Public Water Systems (DWR Table 2-1)

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA2410009	Merced, City of	22,969	20,076
	TOTAL	22,969	20,076
**** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

2.2 Individual Planning and Compliance

Water agencies are given the option to develop UWMPs individually or collectively as a regional group. While efforts to prepare the UWMP were coordinated with appropriate agencies, this UWMP was developed for the City service area only, and the City is not participating in a Regional UWMP (**Table 2-2**).

Table 2-2 – Plan Identification Type (DWR Table 2-2)

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

2.3 Fiscal or Calendar Year and Units of Measure

Legal Requirements:

CWC Section 10608.20:
(a)(1) Urban retail water suppliers…may determine the targets on a fiscal year or calendar year basis.

The City's 2020 UWMP has been prepared on a calendar year basis and includes planning data for the complete year of 2020. The City's reporting of water volumes in this 2020 UWMP is reported in acre feet (AF). **Table 2-3** summarizes the City's reporting methods for this 2020 UWMP.

Table 2-3 – Supplier Identification (DWR Table 2-3)

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

2.4 Coordination and Outreach

Legal Requirements:

CWC Section 10631:
(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

The UWMPA requires that the UWMP identify the water agency's coordination with appropriate nearby agencies. While preparing the 2020 UWMP, the City coordinated its efforts with relevant agencies to ensure that the data and issues are presented accurately.

2.4.1 Wholesale and Retail Coordination

The City does not receive wholesale water, nor does it plan to in the future (**Table 2-4**).

Table 2-4 – Water Supplier Information Exchange (DWR Table 2-4)

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
N/A
NOTES:

2.4.2 Coordination with Other Agencies and the Community

Legal Requirements:

CWC Section 10620:
(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

CWC Section 10642:
Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan...

The City solicited participation from other agencies and organizations for the preparation of the 2020 UWMP. **Table 2-5** summarizes how the UWMP preparation was coordinated.

Table 2-5 – UWMP Coordination

Coordinating Agencies	Participated in Developing the Plan	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Copy of the Draft Plan	Was Sent a Notice of Intention to Adopt	Not Involved/ No Information
Merced Irrigation District (MID)	☐	☐	☐	☐	☑	☑	☐
University of California Merced (UC Merced)	☐	☐	☐	☐	☐	☑	☐
County of Merced (County)	☐	☐	☐	☐	☑	☑	☐
Merced County Association of Governments (MCAG)	☐	☐	☐	☐	☑	☑	☐
Merced City School District	☐	☐	☐	☐	☐	☑	☐
State of California Department of Water Resources	☐	☐	☐	☐	☐	☑	☐
Merced Union High School District	☐	☐	☐	☐	☐	☑	☐
General Public	☐	☐	☑	☐	☐	☐	☐

2.4.3 Notice to Cities and Counties

Legal Requirements:

CWC Section 10621(b):
Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

The City also provided formal written notification to Merced County, MID, and other appropriate agencies, that the City's UWMP was being updated. In accordance with the UWMPA, this notification was provided at least 60 days prior to the public hearing of the plan. Electronic copies of the final UWMP will be provided to these agencies no later than 30 days after its submission to the DWR. **Appendix C** contains copies of the outreach documents.

3 System Description

The UWMPA requires that the UWMP include a description of the water purveyor's service area and various aspects of the area served including climate, population, and other demographic factors. Unless otherwise noted, this UWMP uses the term "service area" to refer to the areas which the City provides potable water service.

3.1 General Description

Legal Requirements:

CWC Section 10631:
(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

The City is situated in the midst of the agriculturally rich San Joaquin Valley and borders State Route 99, with Highways 140 and 59 also serving as principal access points to the City. Since its incorporation in 1889, Merced has been recognized as the "Gateway to Yosemite."

Dedicated to promoting planned growth while preserving much of its small-town appeal, the City maintains the largest population within Merced County (County). Completion of UC Merced in 2005 created a significant economic opportunity for the City and the local economy. The City's economic base consists of education, public services, retail sales, and light industrial. Merced is the regional hub for education, culture, and business. The community offers abundant shopping and affordable housing in comparison to other California locations. **Figure 3-1** provides a regional location map for the City.

The San Joaquin Valley's regional geography is characterized by flat plains, with the City having an average elevation of approximately 171 feet above mean sea level. The City has a long history of agriculture land use. However, agriculture has given way to residential housing and other aspects of urbanization.

The City operates under a Council-Manager form of government. City residents elect a seven-member City Council to serve as the City's legislative and governing body. The City Council provides policy direction to the City Manager, who is responsible for administering City operations. The City's Public Works Department is responsible for many public services within the City, including water service, sewer service, storm drainage, wastewater treatment plant, recycled water service, refuse, streets, parks, street lighting and signals, and fleet maintenance.

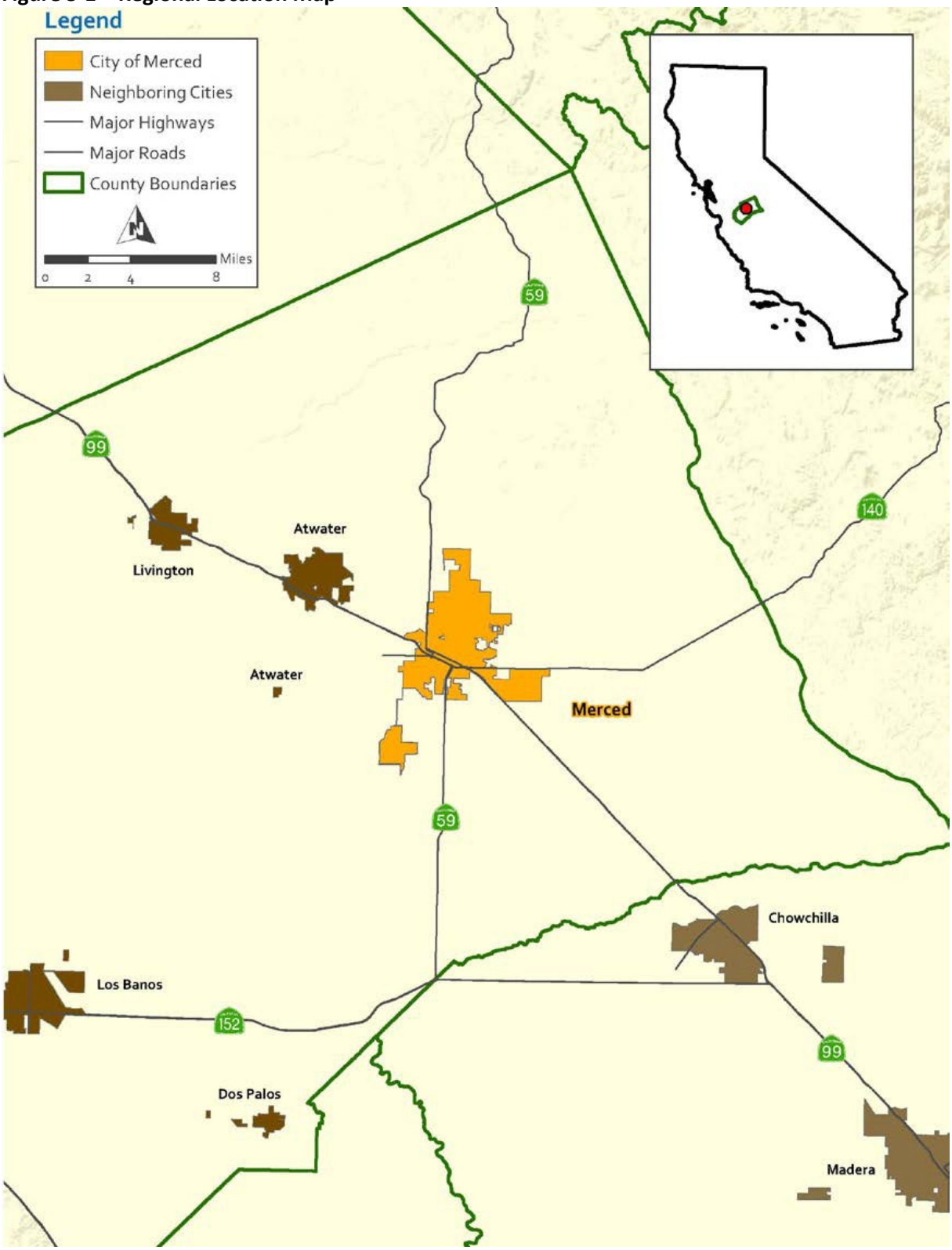
The City's Public Works Department is the only municipal water purveyor in the City and provides service to an estimated total population of 99,100 residents (as of the year 2020), including UC Merced.

3.2 Service Area Boundary Maps

There are three basic boundaries which define the City in relation to the surrounding area. These boundaries include the City limits, the Specific Urban Development Plan (SUDP) boundary, and Sphere of Influence (SOI). The City limits currently encompasses 23.1 square miles. The City's SOI is also the City's SUDP boundary and covers 44.7 square miles.

Figure 3-2 illustrates the boundary of the City's water service area, SOI, and SUDP boundary. The City's water service area is considered the areas to which the City provides potable water service such as the water consumers within the City limits, the UC Merced campus, and some small County islands outside the City limits. **Figure 3-2** will also be submitted to DWR in ArcGIS format with the 2020 UWMP.

Figure 3-1 – Regional Location Map



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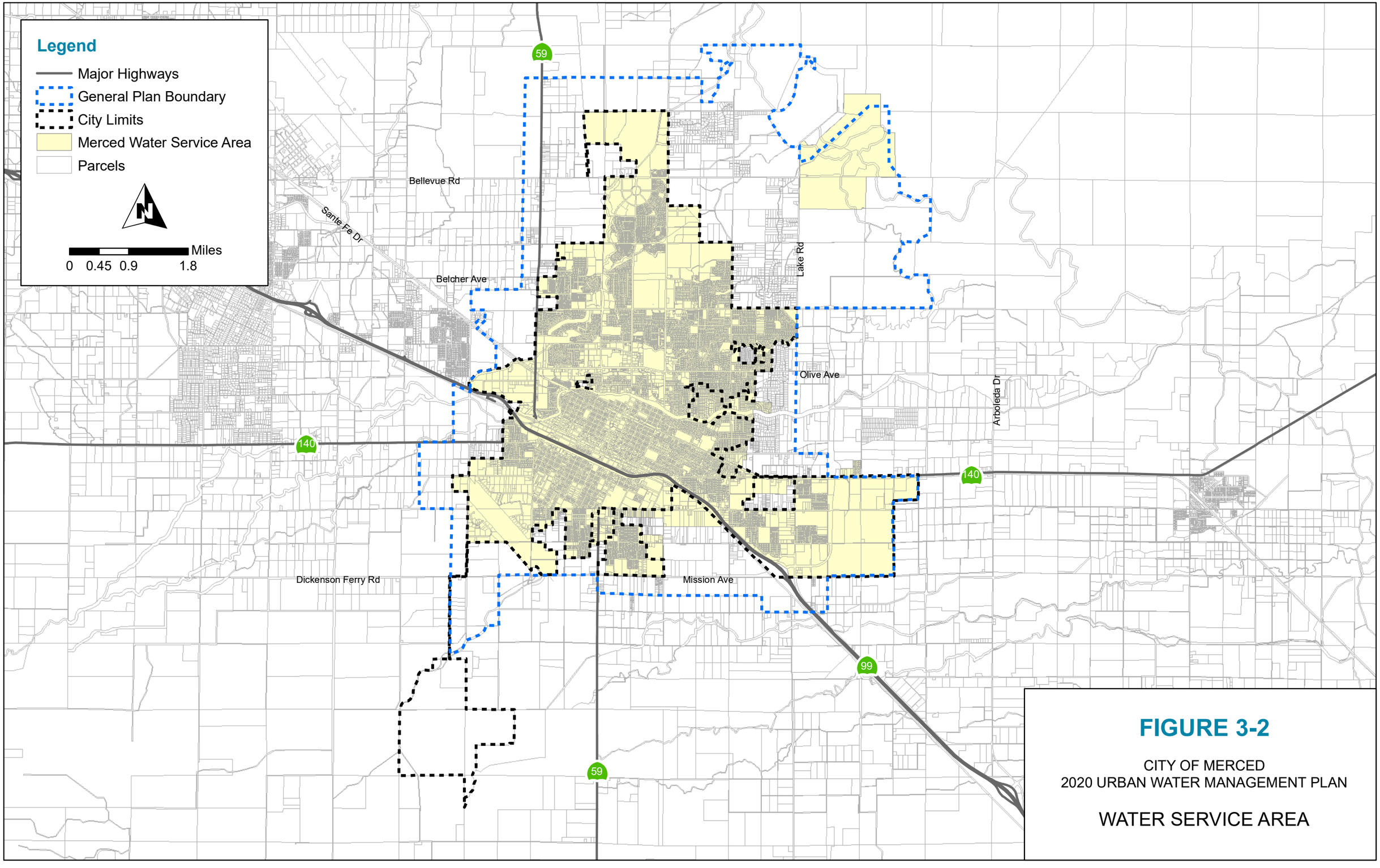


FIGURE 3-2

CITY OF MERCED
2020 URBAN WATER MANAGEMENT PLAN

WATER SERVICE AREA

3.3 Service Area Climate

Legal Requirements:

CWC Section 10631(a):
A plan shall… Describe the service area of the supplier, including … climate…

CWC Section 10630:
It is the intention of the Legislature, in enacting this part, to permit levels of water management planning… while accounting for impacts of climate change.

The City of Merced has a Mediterranean climate. Summers are hot and dry while winters are cold and wet, with an annual average precipitation of approximately 12.2 inches. Most of the annual precipitation occurs between November and April. The local annual average maximum daily temperature is 75.7 degrees F° and the annual average minimum daily temperature is 45.7 degrees F°. **Table 3-1** summarizes monthly average evapotranspiration (ETo) rates, rainfall, and temperature. ETo is the water lost through evaporation from the soil and surface water bodies, combined with plant transpiration. Local data was obtained from California Irrigation Management Information System (CIMIS) Station #148, located near East Olive Avenue and North Orchard Drive, east of the City limits.

Table 3-1 – City of Merced Climate Data

Month	Average ETo inches [a]	Average Max Temperature °F [b]	Average Min Temperature °F [b]	Average Rainfall inches [b]
January	1.27	56.5	34.7	2.16
February	2	62	36.6	2.11
March	3.64	67.7	40.3	1.82
April	5	72.7	43.9	1.41
May	6.93	81.3	49.5	0.48
June	7.97	89.4	55.1	0.13
July	8.48	94.9	59.2	0.01
August	7.61	93.3	57.6	0
September	5.58	89.2	53.3	0.07
October	3.6	79.1	45.5	0.62
November	1.79	66	38	1.24
December	1.08	56.6	34.4	2.15
Total	54.95	75.7	45.7	12.2

(a) Source: CIMIS Website: wwwcimis.water.ca.gov, Station 148 Merced, California, Monthly Average ETo Report, Printed March 2021.
(b) Source: CIMIS Website: wwwcimis.water.ca.gov, Station 148 Merced, California, Monthly Average Report, January 2000 – December 2020.

These climate characteristics highly influence the City's water use. As described in Chapter 4, the City's water use in the summer months is significantly higher than that in the winter, reflecting increased water use for irrigation purposes during the hot, dry summers.

3.4 Service Area Population and Demographics

3.4.1 Service Area Population

Legal Requirements:

CWC Section 10631(a):
Describe the service area of the supplier, including current and projected population …The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

According to California Department of Finance (DOF) Demographic Research Unit Report E-4, the City's population for the year 2020 was 88,120. UC Merced's student, faculty, and staff population for 2020 was estimated at 10,980 by the University of California Merced 2020 Long-Range Development Plan [1]. The future of growth for the City will be linked to the continuing expansion of the university and a connection to the state's proposed future high-speed rail system. Upon completion, the new rail system will link the City to major metropolitan areas in both the northern and southern portions of the state. **Table 3-2 (DWR Table 3-1)** shows the existing and forecasted population for the service area, which will be used to forecast water requirements for the City. **Table 3-3** shows the existing and forecasted population for the City and UC Merced separated. The forecasted population for the City is based on the Merced County Forecast Summary [2]. The forecasted population for UC Merced is based on the University of California Merced 2020 Long-Range Development Plan [1], UC Merced 2020 Long Range Development Plan Final Subsequent Environmental Impact Report [3], and UC Merced Tomorrow Long Range Development Plan [4]. UC Merced is projected to be fully developed by 2045.

Table 3-2 – Population – Current and Projected (DWR Table 3-1)

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	99,100	109,866	120,363	130,461	143,194	155,816
NOTES: Includes UC Merced.						

Table 3-3 – Current and Projected Population by Category

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
City of Merced	88,120	95,670	102,952	109,986	116,864	123,631
UC Merced	10,980	14,196	17,411	20,475	26,330	32,185
Total	99,100	109,866	120,363	130,461	143,194	155,816

NOTES: (1) Service area population is defined as the population served by the distribution system. (2) Source: 2020 City of Merced population based on DOF data. Year 2025, 2030, 2035, 2040, and 2045 population projections for the City are from the Merced County Forecast Summary, July 7, 2016. (3) Source: 2020 and 2030 UC Merced population from UC Merced 2020 Long-Range Development Plan, March 2020. (4) Source: 2035 UC Merced population from UC Merced 2020 Long Range Development Plan Recirculated Draft SEIR, December 2019. (5) UC Merced assumed to be fully developed by 2045. Full development population from UC Merced Tomorrow Long Range Development Plan, Amended April 2017. (6) UC Merced 2040 population estimated using straight line growth assumption for 2035-2045.

3.4.2 Other Social, Economic, and Demographic Factors

Legal Requirements:

CWC Section 10631:
(a) Describe the service area of the supplier, including… other social, economic and demographic factors affecting the supplier's water management planning.

The City's median household income is $45,232, and the poverty rate is 29.3%. The median age in the City is 29.4 years old, significantly lower than the United States' median age of 38.1. According to the U.S. Census Bureau, over a third of the population in Merced speaks Spanish, and nearly half of the population speaks a language other than English at home. 72.9% of the population has attained a high school diploma.

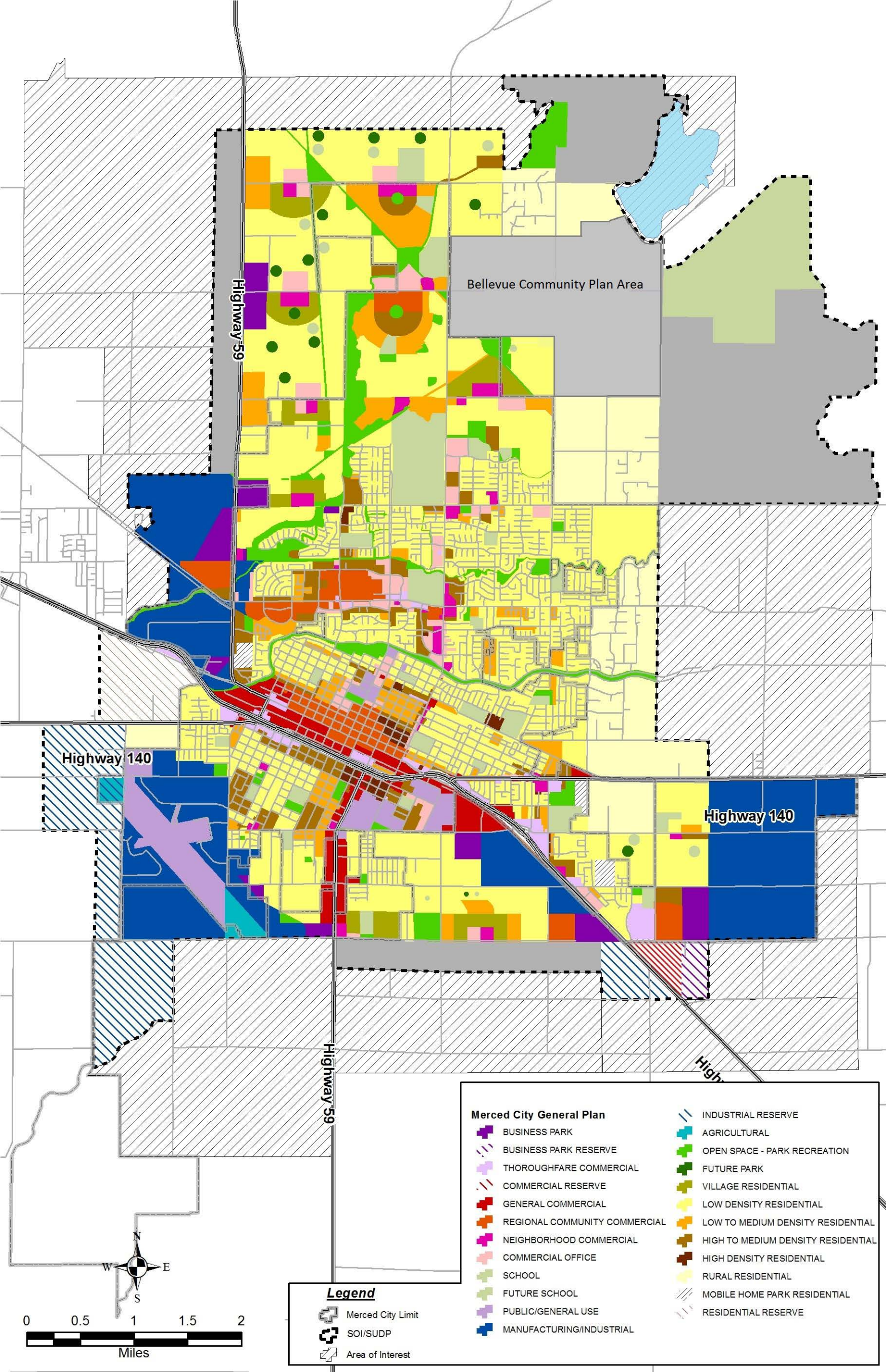
In 2020, approximately 11% of the service area population was comprised of the UC Merced population. 89% of students attending UC Merced are under the age of 25, and most attendees are full-time students. Less than one percent of students are from out of state or a foreign country. Over half of the student population is Hispanic, and the campus ranks high on racial diversity.

3.5 Land Uses within Service Area

Legal Requirements:

CWC Section 10631(a):
The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities…

The City is predominantly comprised of single-family residential land use with commercial, industrial, parks/open space/public uses, and multi-family residential land uses comprising the remaining areas. On January 3, 2012, the City Council adopted the Merced Vision 2030 General Plan (2030 General Plan) [5]. The 2030 General Plan serves as a blueprint for growth and development in the City. **Figure 3-3** shows the 2030 General Plan land use diagram.


Bellevue Community Plan Area
Highway 59
Highway 140
Highway 140
Highway 59
Merced City General Plan
BUSINESS PARK
BUSINESS PARK RESERVE
THOROUGHFARE COMMERCIAL
COMMERCIAL RESERVE
GENERAL COMMERCIAL
REGIONAL COMMUNITY COMMERCIAL
NEIGHBORHOOD COMMERCIAL
COMMERCIAL OFFICE
SCHOOL
FUTURE SCHOOL
PUBLIC/GENERAL USE
MANUFACTURING/INDUSTRIAL
INDUSTRIAL RESERVE
AGRICULTURAL
OPEN SPACE - PARK RECREATION
FUTURE PARK
VILLAGE RESIDENTIAL
LOW DENSITY RESIDENTIAL
LOW TO MEDIUM DENSITY RESIDENTIAL
HIGH TO MEDIUM DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL
RURAL RESIDENTIAL
MOBILE HOME PARK RESIDENTIAL
RESIDENTIAL RESERVE
Legend
Merced City Limit
SOI/SUDP
Area of Interest
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Miles

4 Water Use Characterization

This chapter describes and quantifies the current and projected water demands within the City's service area.

4.1 Non-Potable versus Potable Water Use

This chapter addresses demands that are met by potable water sources. Recycled water use is described separately in Chapter 6. The City does not use other non-potable water sources.

4.2 Past, Current, and Projected Water Use by Sector

Legal Requirements:

CWC Section 10635:
(a) Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC Section 10631(d):
(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…
(2) The water use projections shall be in the same five-year increments described in subdivision (a).
(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.
(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

The following sections describe past, current, and projected water use within the City for each of the ten water use sectors identified in CWC Section 10631(d).

4.2.1 Water Use Sectors Listed in Water Code

Legal Requirements:

CWC Section 10631(d):
(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:
(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(J) Distribution system water loss.

The water use sectors that are served by the water system include single-family residential, multi-family residential, commercial, and landscape irrigation. These classifications were used to analyze current consumption patterns. These classifications are defined by the DWR 2020 UWMP Guidebook and City as follows:

- **Single-family residential** – A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include an accessory dwelling unit.
- **Multi-family residential** – Multiple dwelling units contained within one building or several buildings within one complex.
- **Commercial** – A water user that provides or distributes a product or service.
- **Landscape** – Water connections supplying water solely for landscape irrigation.
- **Distribution System Water Losses** – Water losses which occur due to distribution system leaks and other unmetered water uses (such as firefighting, main flushing, etc.).

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

The water system does not serve additional water use sectors.

4.2.3 Past Water Use

The City's past water use for 2016-2019 is shown in **Table 4-1**.

Table 4-1 – Past Water Use (2016-2019)

Year	Water Use (AF)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2016	897	888	978	1,172	1,554	2,078	2,311	2,296	1,996	1,590	1,075	976	17,811
2017	914	821	1,039	1,125	1,816	2,074	2,417	2,336	2,040	1,791	1,229	1,090	18,692
2018	1,002	1,008	1,043	1,259	1,869	2,207	2,536	2,403	2,102	1,746	1,352	960	19,487
2019	919	824	926	1,345	1,673	2,078	2,381	2,420	2,085	1,819	1,449	1,012	18,931

4.2.4 Distribution System Water Loss

Legal Requirements:

CWC Section 10631(d)(1):
For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…
(J) Distribution system water loss….

CWC Section 10631(d)(3):
(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.
(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

The last five years of water loss audit reporting are summarized in **Table 4-2 (DWR Table 4-4).** The water loss audits for 2016-2019 are in **Appendix D**.

Table 4-2 – Last Five Years of Water Loss Audit Reporting (DWR Table 4-4)

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2020	1350
01/2019	1290
01/2018	760
01/2017	1740
01/2016	1380
[1] *Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.* [2] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES: Volume of Water Loss for 2020 was estimated based on water supplied and billed meter data and has not been audited.	

CWC Section 10608.34(i) directs the State Water Board to "adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses." The proposed regulation would require urban water suppliers to meet individual volumetric water loss standards determined through a water system-specific economic model developed by the State Water Board. Pursuant to this law, urban retail water suppliers, such as the City, have annually submitted water loss audits to DWR since October 2017. Pre-rulemaking meetings and workshops were held in 2018-2020 and adoption of the proposed regulation is anticipated to occur in 2021. Once the economic model is finalized, the City can determine their individual volumetric water loss standard.

4.2.5 Current Water Use

Table 4-3 (DWR Table 4-1) shows potable water use for 2020 by water use type.

Table 4-3 – Demands for Potable and Non-Potable Water – Actual (DWR Table 4-1)

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Single Family		Drinking Water	10,303
Multi-Family		Drinking Water	3,257
Commercial		Drinking Water	3,041
Industrial		Drinking Water	411
Landscape		Drinking Water	1,664
Losses		Drinking Water	1,400
		TOTAL	20,076
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volume of losses does not match estimated water loss audit volume for 2020 shown in Table 4-2 (DWR Table 4-4). Volume of losses inclues an additional 50 AF for unbilled, unmetered consumption (equivalent to 2.5% of water production), estimated using the methodology including in the AWWA Water Audit Software.			

4.2.6 Projected Water Use

Legal Requirements:

CWC Section 10635 (a):
Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Water Code Section 10631:
(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available… The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

CWC Section 10631(d)(4):
(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.
(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:
(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.
(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Table 4-4 (DWR Table 4-2) summarizes the projected water use by use type for 2025 through 2040. The water use in **Table 4-4 (DWR Table 4-2)** was calculated using the following assumptions:

- 2020 Target SB X7-7 of 248 gallons per capita per day, further described in Chapter 5
- Population projections presented in **Table 3-2 (DWR Table 3-1)**
- Percentage water use by use type for future years was the same as for 2020
- 20 percent reduction in per capita water use due to implementation of Stage 2 Shortage Responses Actions. Refer to the WSCP. Stage 2 Shortage Response Actions are anticipated to apply to future years due to the overdraft condition of the Merced groundwater basin.

The projections are conservative and do not consider potential water use reductions from codes, standards, ordinances, or transportation and land use plans.

Table 4-4 – Use for Potable and Non-Potable Water – Projected (DWR Table 4-2)

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use* *Report To the Extent that Records are Available*				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		12,531	13,729	14,880	16,333	
Multi-Family		3,961	4,340	4,704	5,163	
Commercial		3,699	4,052	4,392	4,821	
Industrial		500	548	594	652	
Landscape		2,024	2,217	2,403	2,638	
Losses		1,703	1,865	2,022	2,219	
TOTAL		24,418	26,751	28,995	31,825	0
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Projected water use based on population projections from Table 3-1, and an assumed water demand of 248 gpcd, equivalent to the SB X7-7 2020 Target. An additional 20 percent reduction in demand due to implementation of Stage 2 Shortage Response Actions were included. Projected water uses for each use type were proportionally increased based on their percentage of the total water use for 2020.						

Table 4-5 (DWR Table 4-3) summarizes the total projected potable and non-potable water use in five-year increments from 2020 to 2040. The table includes recycled water demand, which will be further described in Chapter 6.

Table 4-5 – Total Water Use (Potable and Non-Potable) (DWR Table 4-3)

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	20,076	24,418	26,751	28,995	31,825	0
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	20,076	24,418	26,751	28,995	31,825	0

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES:

4.2.7 Characteristic Five-Year Water Use

Legal Requirements:

CWC Section 10635(b):
Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…
(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period. [Emphasis added]
(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The characteristic five-year water use for the City was calculated using the Planning Tool Use Worksheet provided by the California Department of Water Resources (**Appendix E**). This information will be useful for preparing the five-year Drought Risk Assessment (DRA) in Chapter 7. **Table 4-6** shows the summarized characteristic five-year water use. The projections assume a straight-line population growth between 2020 and 2025 and a water demand of 198 gallons per capita per day (gpcd). The per capita water demand is based on an unconstrained water demand of 248 gpcd, equivalent to the SB X7-7 2020 target water demand shown in **Table 5-1 (DWR Table 5-1)**. A 20-percent reduction due to implementation of Stage 2 shortage response actions described in the Water Conservation Ordinance and WSCP is included in the projections.

Table 4-6 – Characteristic Five-Year Water Use

Description	Year				
	2021	2022	2023	2024	2025
Per capita water use, gpcd [a]	248	248	248	248	248
Population [b]	101,253	103,406	105,560	107,713	109,866
Total unconstrained water use, AF	28,130	28,728	29,326	29,924	30,522
Reduction due to Shortage Level 2 measures [c]	-5,626	-5,746	-5,865	-5,985	-6,104
Total projected water use, AF	22,504	22,982	23,461	23,939	24,418

[a] Assumes an unconstrained water demand of 248 gpcd, equivalent to the SB X7-7 2020 target demand from **Table 5-1 (DWR Table 5-1)**

[b] Projections assume a straight line increase in population from the 2020 and 2025 population data presented in **Table 3-2 (DWR Table 3-1)**.

[c] Reduction due to Shortage Level 2 measures assumed to be 20%.

4.3 Water Use for Lower Income Households

Legal Requirements:

CWC Section 10631.1:
(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

California Health and Safety Code Section 50079.5 (a):
"Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

As described above, the UWMP is required to account for lower income household water demands. Lower income households are defined as families with an income less than 80 percent of the area median income, adjusted for family size. U.S. Census data from the 2015-2019 American Community Survey 5-Year Estimates report an average of 3.2 persons per household and approximately 9,967 lower income households within the City, equating to an estimated 31,894 residents. Projected water demands

associated with lower income residential water users through year 2040 are presented in **Table 4-7**. The projections assume the proportion of lower income residents to total residents remains constant and per capita water demands of 181 for 2020 and 198 gpcd for 2025 and beyond.

Table 4-7 – City of Merced Lower Income Household Water Demands

Description	Year				
	2020	2025	2030	2035	2040
Total water use, AF [a]	20,076	24,418	26,751	28,995	31,825
Total population [b]	99,100	109,866	120,363	130,461	143,194
Low-income population [c]	31,894	35,359	38,737	41,987	46,085
Low-income water demand, AF	6,461	6,927	7,589	8,225	9,028

[a] Total water use is from **Table 4-4 (DWR Table 4-2)**.

[b] Total population is from **Table 3-2 (DWR Table 3-1)**.

[c] Lower income population data for 2020 is based on the 2015-2019 American Community Survey 5-Year estimates for median household income, household income distribution, and persons per household. Projected lower income population to total population was assumed to be the same as for 2020.

As shown in **Table 4-8 (DWR Table 4-5)**, lower income demand projections presented in **Table 4-7** are included in the total water use projections provided in **Table 4-5.**

Table 4-8 – Inclusion in Water Use Projections (DWR Table 4-5)

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Stage 2 Shortage Response Actions per the WSCP and Water Conservation Ordinance
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

4.4 Climate Change Considerations

Legal Requirements:

CWC Section 10630:
It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

CWC Section 10635(b):
Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…
(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The 2018 Merced Integrated Regional Water Management Plan Update, adopted in February 2019 [6] (MIRWMP), addressed adaptation to the effects of climate change and mitigation of greenhouse gas emissions. Potential effects of climate change in the region of the City may include warmer temperatures, an increase in the uncertainty of future precipitation conditions, increases in extreme precipitation events, and increased wildfire frequency and severity. According to climate scientists, increases in global greenhouse gas levels are changing climate patterns around the world and, it is speculated, may begin to change at an accelerated pace from what has occurred in the past. An accelerated rate of change could potentially result in impacts to the local climate of the City in the form of higher temperatures, increased droughts and floods, decreased snowpack amounts and durations and other extreme variations in weather.

Previous City documents, such as the City's Climate Action Plan, adopted in August 2012 and the MIRWMP identified several resource management strategies to mitigate potential impacts on water supply on reliability. The resource management strategies include:

- Reducing water demand
- Improving operational efficiency and transfers
- Increasing water supply through implementation of conjunctive management of surface and groundwater supplies as well as through groundwater storage, recycled water use, and increased surface water storage, as appropriate
- Improving water quality
- Improving flood management
- Practicing resource stewardship
- Public outreach

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5 SB X7-7 Baselines, Targets, and 2020 Compliance

With the adoption of the Water Conservation Act of 2009, also known as the SB X7-7, the State of California was required to reduce urban per capita water use by 20 percent by the year 2020 (i.e., "20 by 2020"). CWC Section 10608.16(a) states: "The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020." To achieve this statewide objective, the California Legislature required each urban retail water supplier (Retail Supplier) subject to the UWMPA to develop an urban water use target to help the state collectively achieve a 20-percent reduction.

This chapter provides a description of the methodology used to calculate the City's compliance with SB X7-7 requirements. The SB X7-7 Verification Form from the 2015 UWMP and the SB X7-7 Compliance Form are included in **Appendix F**.

5.1 Baseline and Target Calculations for 2020 UWMPs

Legal Requirements:

CWC Section 10608.20 (g):
(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

The City calculated their SB X7-7 baselines and targets in their 2015 UWMP and did not have a situation, such as a change to the service area or customer base, to warrant recalculation of the baselines and targets. **Table 5-1 (DWR Table 5-1)** summarizes the SB X7-7 baseline and confirmed 2020 target from the SB X7-7 Verification Form.

Table 5-1 – Baselines and Targets Summary from SB X7-7 Verification Form (DWR Table 5-1)

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form *Retail Supplier or Regional Alliance Only*				
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*310*	*248*
5 Year	*2003*	*2007*	*282*	
**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

5.2 Methods for Calculating Population and Gross Water Use

This section describes the methods used for calculating population and gross water use for determining 2020 compliance with the SB X7-7 target.

5.2.1 Service Area Population

Legal Requirements:

CWC Section 10608.20(e):
An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline per capita water use…along with the bases for determining those estimates, including references to supporting data.
(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

CWC Section 10644:
(a)(2) The plan…shall include any standardized forms, tables or displays specified by the department.

To calculate the compliance year gpcd, the population served in 2020 was estimated using DOF Demographic Research Unit Report E-4 data and data from UC Merced planning documents [1, 3, 4]. U.S. Census 2020 decennial data was not available in time for completion of the 2020 UWMP. The service area boundaries for the City water system correspond by 95 percent or more with the boundaries of the City and, therefore, the DOF data for the City could be used for the service area population according to the 2020 DWR Guidebook. The service area population for 2020 is estimated as 99,100, as shown in **Table 3-2 (DWR Table 3-1).**

5.3 Gross Water Use

Legal Requirements:

CWC Section 10608.12:
(g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier
(2) The net volume of water that the urban retail water supplier places into long term storage
(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier
(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article Section 596 (a):
An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Gross water use is defined as the measurable amount of water that enters the distribution system over a 12-month period, minus allowable exclusions. The gross water use for 2020 was 20,076 AF, as reported in **Table 4-3 (DWR Table 4-1)** and SB X7-7 Table 4 of the SB X7-7 2020 Compliance Form provided in **Appendix F**.

5.4 2020 Compliance Daily Per-Capita Water Use (GPCD)

Legal Requirements:

CWC Section 10608.12:
(f) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…

CWC Section 10608.20:
(e) An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

The City has calculated its actual 2020 water use for the 2020 calendar year in accordance with Methodology 3 of DWR's *Methodologies* document. As shown in **Table 5-2 (DWR Table 5-2)**, per capita water use in 2020 was 181 gpcd, which is below the 2020 target of 248 gpcd.

Table 5-2 – 2020 Compliance (DWR Table 5-2)

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form *Retail Supplier or Regional Alliance Only*				
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
181	*0*	*181*	*248*	*Yes*
**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

As detailed in CWC Section 10608.4, there are allowable adjustments that can be made to an agency's gross water use in 2020 for differences in evapotranspiration and rainfall, substantial changes to commercial or industrial water use, and/or substantial changes to institutional water use. However, because the City's per capita water use is in compliance, the City did not elect to include the allowable adjustments.

5.5 Regional Alliance

The City has chosen to comply with the requirements of SB X7-7 on an individual basis and is, therefore, not a participant in a regional alliance for SB X7-7 compliance.

6 Water Supply Characterization

Legal Requirements:

CWC Section 10631(b):
Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:
(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.
(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.
(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

CWC 10631 (h):
An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

The UWMPA requires that the UWMP include a description of the agency's existing and future water supply sources for the next 20 years. This chapter will provide the following information:

- Existing and planned sources of water
- Projections of the water supplies over five-year increments through 2040
- Description of anticipated availability under normal, single dry, and five-year droughts
- Description of the management of each supply in correlation
- Description of information pertinent to the reliability of the supplies, including considerations for climate change effects

6.1 Narrative Sections for Supplier's UWMP Water Supply Characterization

6.1.1 Purchased or Imported Water

The City does not currently purchase or import water from any other water supply or entity.

6.1.2 Groundwater

Legal Requirements:

CWC Section 10631(b)(4):
If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:
(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.
(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).
(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The City's sole source of drinking water is from the groundwater aquifer underlying the community. The following sections describe the current status of the GSP, the groundwater basin from which the City pumps groundwater, and a detailed description and analysis of the location, amount, and sufficiency of historical and projected groundwater pumping.

6.1.2.1 Groundwater Sustainability Plan

In September 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA) into law. This legislation is intended to provide a framework for management of groundwater supplies by local agencies and restricts state intervention, if required. The three legislative bills that make up the SGMA are AB 1739, SB 1319, and SB 1168. SGMA required that high-priority basins develop groundwater sustainability agencies (GSAs), develop GSPs, and manage groundwater for long-term sustainability. The Merced Subbasin was classified as a high-priority basin in the SGMA 2019 Basin Prioritization, completed in December 2019.

Water management and land management agencies in the Merced Subbasin formed three GSAs: the Merced Irrigation-Urban GSA (MIUGSA), the Merced Subbasin GSA, and the Turner Island Water District

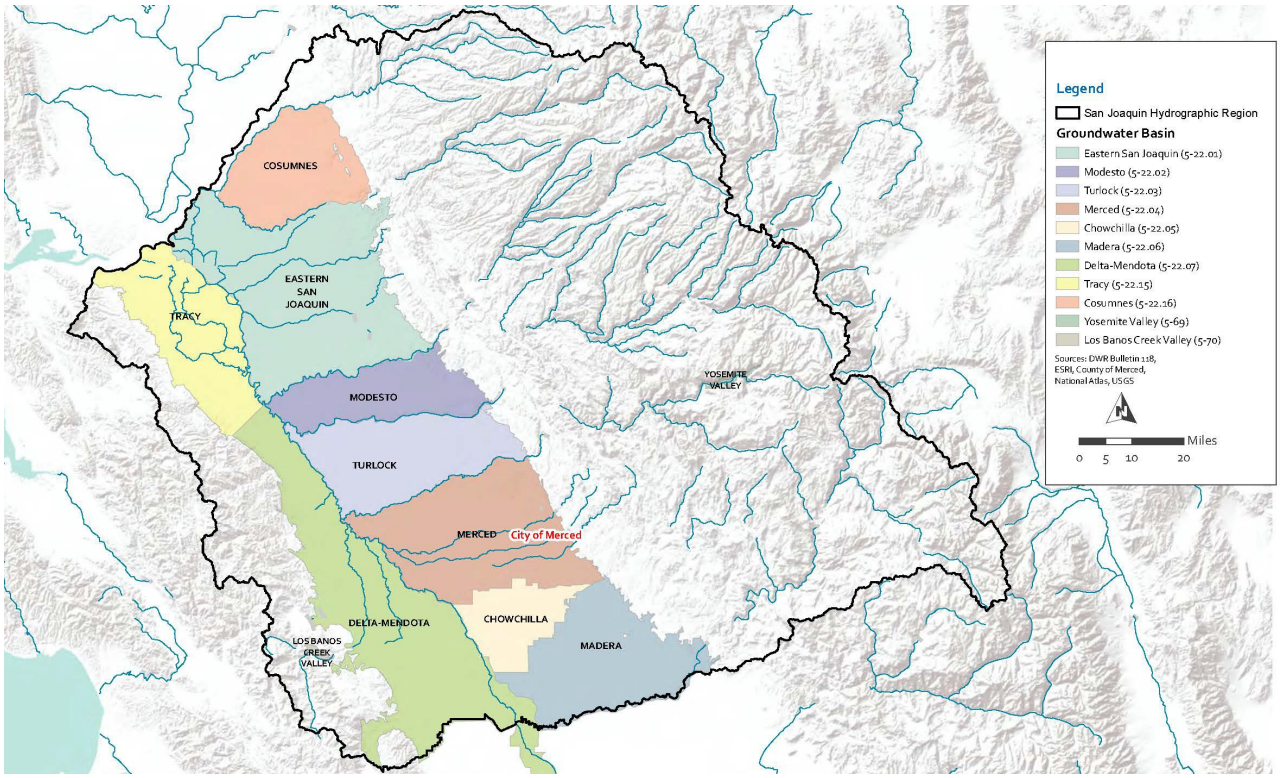
GSA. The three GSAs collaborated on a GSP for the entire Merced Subbasin. The City is a member of the MIUGSA which was formed by a Memorandum of Understanding (MOU) between the MID, City, City of Atwater, City of Livingston, Le Grand Community Services District, Planada Community Services District, and Winton Water and Sanitary District.

The Merced Subbasin GSP was adopted by the MIUGSA in December 2019 and is available to view on the Merced SGMA's website (http://mercedsgma.org/resources). With the adoption of the Merced Subbasin GSP, the participating GSAs adopted a goal of achieving sustainable groundwater management on a long-term average basis by increasing recharge and/or reducing groundwater pumping, while avoiding undesirable results. The goal will be achieved by allocating a portion of the estimated Merced Subbasin sustainable yield to each of the three participating GSAs and coordinating the implementation of programs and projects to increase both direct and in-lieu groundwater recharge which will in turn increase the groundwater and/or surface water available. Implementation of the GSP will be a substantial undertaking. The Merced Subbasin GSP implementation schedule for the initial five years (2020-2025) focuses on monitoring and reporting activities, including developing initial GSA allocations, and establishing allocation procedures and demand reduction efforts. The implementation of the GSP will improve the long-term water supply reliability for the City by providing estimates for sustainable groundwater quantities that are available.

6.1.2.2 Groundwater Basin Description

The City is located within the geomorphical province known as the Central Valley, which is divided into the Sacramento Valley and the San Joaquin Valley. The groundwater underlying the City is part of the larger San Joaquin Valley Groundwater Basin within the San Joaquin River Hydrologic Region. The San Joaquin Valley Groundwater Basin is further subdivided into nine subbasins, including the Merced Subbasin. The City lies entirely within the Merced Subbasin (Subbasin 5-22.04), as shown in **Figure 6-1**. The Merced Subbasin (Subbasin 5-22.04) covers a surface area of approximately 491,000 acres (767 square miles).

Figure 6-1 – Groundwater Basins and Subbasins



The Merced Subbasin contains three principal aquifers that are defined by their relationship to the Corcoran Clay aquitard, a laterally-extensive silt and clay layer that underlies approximately the western half of the subbasin and acts as a significant confining layer. The Above Corcoran Principal Aquifer includes all aquifer units that exist above the Corcoran Clay Aquitard and generally contains moderate to large hydraulic conductivities and yields for domestic and irrigation uses. The Below Corcoran Principal Aquifer includes all aquifer units that exist below the Corcoran Clay Aquitard and contains hydraulic conductivities and yields ranging from small to large for irrigation as well as some domestic and municipal uses. The Outside Corcoran Principal Aquifer includes all aquifers that exist outside of the eastern lateral extent of the Corcoran Clay. The Outside Corcoran Principal Aquifer is connected laterally with the Above Corcoran Principal Aquifer at shallower depths and the Below Corcoran Principal Aquifer at deeper depths. Major uses of water in the Outside Corcoran Principal Aquifer include irrigation, domestic, and municipal uses. The Principal Aquifers are underlain by a deep aquifer with higher salinity relative to the principal aquifers.

The groundwater aquifer from which the City obtains its water is not adjudicated. An adjudication consists of a groundwater basin in which all rights to water could be defined by a court. As a non-adjudicated basin, there are no defined legal pumping rights for the City and there are no legal constraints on groundwater pumping.

The Merced Subbasin is a high priority basin and is critically overdrafted. The City and other members of the MIUGSA are in the process of implementing measures from the recently adopted GSP to sustainably manage the groundwater basin, including allocation of the estimated sustainable yield of the basin to the GSAs.

6.1.2.3 Past Five Years

The historical volume of groundwater pumped by the City over the past five years is provided in **Table 6-1 (DWR Table 6-1)**.

Table 6-1 – Groundwater Volume Pumped (DWR Table 6-1)

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Merced Subbasin	17813	18692	19488	18931	20076
	TOTAL	17,813	18,692	19,488	18,931	20,076
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.1.3 Surface Water

The City does not receive any water supply from surface water.

6.1.4 Stormwater

Stormwater throughout the City is collected by the City's existing storm drainage facilities, which consist of an underground storm drain system, detention ponds, underground storage pipes, pump stations, and open channels.

The City does not have any existing facilities to recover stormwater for beneficial use such as recharge, irrigation, or reuse. Currently, the City's infrastructure conveys stormwater into MID's canals and natural channels.

6.1.5 Wastewater and Recycled Water

Legal Requirements:

CWC Section 10633:
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:
(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

The UWMPA requires that the UWMP address the opportunities for development of recycled water, including the description of existing recycled water applications, quantities of wastewater currently being treated to recycled water standards, limitations on the use of available recycled water, an estimate of projected recycled water use, the feasibility of said projected uses, and practices to encourage the use of recycled water.

6.1.5.1 Recycled Water Coordination

Legal Requirements:

CWC Section 10633:
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area…

All the City's wastewater is treated at the Wastewater Treatment Facility (WWTF). The facility produces equivalent disinfected tertiary effluent and is permitted to treat 12.0 million gallons per day (mgd), with plans for future expansions to treat up to 20.0 mgd. Although the facility can produce disinfected tertiary recycled water, use of the effluent as a water source within the City water service area is unlikely due to the remote location of the WWTF and the high cost associated with constructing the necessary infrastructure.

6.1.5.2 Wastewater Collection, Treatment, and Disposal

Legal Requirements:

CWC Section 10633(a):
A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

The City collects, treats, and recycles both municipal and process wastewater. Municipal wastewater is generated from a combination of residential, commercial, and industrial sources. The City owns, operates, and maintains the wastewater collection system that serves the City's water service area. The collection system consists of gravity sewers up to 54-inches in diameter, lift stations, and force mains.

Wastewater is treated at the WWTF to equivalent disinfected tertiary standards. The treated effluent is discharged to Hartley Slough and the Merced Wildlife Management Area (WMA). Effluent is also used to irrigate the Land Application Areas (LAA). The WWTF, WMA, and LAA are located outside of the City water service area.

Tables 6-2 and **6-3** summarize information regarding the wastewater collection, treatment, and discharge within the service area in 2020. The total volume of wastewater collected and treated includes the City's municipal users and UC Merced.

Table 6-2 – Wastewater Collected within Service Area in 2020 (DWR Table 6-2)

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2015 service area covered by wastewater collection system *(optional)*					
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Merced	Metered	8,848	City of Merced	Merced Wastewater Treatment Facility	No	No
Total Wastewater Collected from Service Area in 2020:		8,848				
**** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Merced Wastewater Treatment Facility is located outside the City water service area limits.						

Table 6-3 – Wastewater Treatment and Discharge within Service Area in 2020 (DWR Table 6-3)

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020											
☑	**No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1] Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area [3]	Recycled Outside of Service Area	Instream Flow Permit Requirement
						Total	0	0	0	0	0
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3. [2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility											
NOTES: Wastewater treatment and discharge for the City occurs outside of the City water service area.											

6.1.5.3 Recycled Water System Description

Legal Requirements:

CWC Section 10633 (c):
A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

The City uses recycled water to create a series of percolation and evaporation ponds at the WMA and to irrigate crops grown on the LAA. These areas are located outside of the City's water service area.

6.1.5.4 Potential, Current, and Projected Recycled Water Uses

Legal Requirements:

CWC Section 10633:
(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

The WWTF treats all the wastewater to equivalent disinfected tertiary recycled water standards. A portion of the effluent is discharged to Hartley Slough and could potentially be used in a recycled water project in the future. Because the effluent meets disinfected tertiary recycled water standards, potential uses include agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, and other uses allowed by applicable recycled water standards. The technical and economic feasibility of these uses could be evaluated by the City as potential recycled water opportunities are identified. Currently, agriculture and wildlife habitat enhancement are the main recipients of recycled water and are projected to remain as the main users in the future. **Tables 6-4 (DWR Table 6-4 R)** and **6-5 (DWR Table 6-5 R)** summarize the City's 2020 and projected recycled water use.

Table 6-4 – Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4 R)

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area											
☑	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:											
Name of Supplier Operating the Recycled Water Distribution System:											
Supplemental Water Added in 2020 (volume) *Include units*											
Source of 2020 Supplemental Water											
Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units*[1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020[1]	2025[1]	2030[1]	2035[1]	2040[1]	2045[1] (opt)	
				Total:	0	0	0	0	0	0	
				2020 Internal Reuse							
[1] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES: Recycled water is used outside of the City water service area. In 2020, 2,359 AF of recycled water was used for agricultural irrigation and 1,691 AF of recycled water was used for wetlands or wildlife habitat.											

Table 6-5 – 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5 R)

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual	
☐	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 [1]	2020 Actual Use[1]
Insert additional rows as needed.		
Agricultural irrigation	3,500	2,359
Landscape irrigation (exc golf courses)	58	0
Wetlands or wildlife habitat	2,215	1,691
Other (Description Required)	1	
Total	5,774	4,050

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE: Recycled water is used outside of the City service area.

6.1.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Legal Requirements:

CWC Section 10633:
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier… and shall include the following:
(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

The City supports the use of recycled water in the service area where economically feasible. Most of the potential use of recycled water consists of agricultural demands and minimal application is planned for urban reuse due to the remote location of the WWTF. The main method identified for expanding future recycled water use is through a water exchange with MID. **Table 6-6 (DWR Table 6-6)** summarizes methods to expand future recycled water use.

Table 6-6 – Methods to Expand Future Recycled Water Use (DWR Table 6-6)

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☐	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
MID Exchange	Exchange of recycled water for surface water.	2020-2030	60
		Total	60
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

6.1.6 Desalinated Water Opportunities

Legal Requirements:

CWC Section 10631(g):
Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Because the City is not located in a coastal area, seawater desalination is not applicable to the City and is not currently considered technically or economically feasible. In addition, the groundwater that underlies the City is not brackish in nature and does not require desalination. As such, the City does not have any plans to incorporate desalinated or treated brackish water into its supply portfolio.

6.1.7 Water Exchanges and Transfers

Legal Requirements:

CWC Section 10631(c):
Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The UWMPA requires that the UWMP address the opportunities for transfers or exchanges.

6.1.7.1 Exchanges

The City has considered long term exchange opportunities with MID. In exchange for recycled water, MID could provide surface water to supplement the City's water supply in the future. According to the MIRWMP, MID deliveries are projected to be 60 AF per year (AFY) initially, potentially rising to 15,000 AFY in 2030 [6].

6.1.7.2 Transfers

UC Merced's Long Range Development Plan identifies the need for the campus to consider the use of recycled water for irrigation and industrial use. The plan recognizes the City as a source for recycled water. However, the City and UC Merced do not have any plans to implement the transfer of recycled water. Therefore, any transfers between the City and UC Merced have not been considered for the planning period.

The City's 2017 Water Master Plan identifies the need to increase the water supply in the future and outlines alternatives to address the potential supply deficiency. The recommended alternative includes the construction of a 10-mgd Surface Water Treatment Plant (SWTP) and would require delivery of raw surface water from MID. An average of 4,000 AFY is estimated to be provided to the City from the SWTP.

6.1.8 Future Water Projects

Legal Requirements:

CWC Section 10631 (f):
Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

To alleviate groundwater reliance, the Water Master Plan recommends the conjunctive use of surface and groundwater to meet future water demands. The construction of a 10-mgd SWTP and six additional wells with a capacity of 2,500 gpm each is identified as the most reliable approach to meeting future demands. These projects are recommended to be implemented by the year 2030. The existing well capacity of the City is 54,400 gpm. With the addition of the six wells and the SWTP, the maximum rated capacity would

increase to 73,400 gpm. A summary of expected future water supply projects is in **Table 6-7 (DWR Table 6-7)**. The City also intends to pursue groundwater recharge projects and will continue efforts along with their partnering agencies through the GSP.

Table 6-7 – Expected Future Water Supply Projects or Program (DWR Table 6-7)

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Surface Water Treatment Plant	Yes	MID	Alternative to increased wells	2030	All Year Types	4,000
New Wells	No		Required to meet future water demands	2030	All Year Types	8,642
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.1.9 Summary of Existing and Planned Sources of Water

Legal Requirements:

CWC Section 10631:
(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following…
(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.
(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

This section describes the types of water that is supplied to the City and the quantity supplied by each water source.

6.1.9.1 Description of Supplies

Currently, the City exclusively uses groundwater for its potable water supply. In the future, if the SWTP is constructed, the City will use the contractual amount of surface water available and supplement the remaining demand with groundwater. Recycled water is supplied by the City for agricultural and wetland use.

6.1.9.2 Quantification of Supplies

The actual (2020) water supplies for the City are summarized in **Table 6-8 (DWR Table 6-8)**. The projected water supplies for the City are summarized **in Table 6-9 (DWR Table 6-9)**.

Table 6-8 – Water Supplies – Actual (DWR Table 6-8)

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply		2020		
Drop down list May use each category multiple times These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Merced Subbasin	20,076	Drinking Water	
	Total	20,076		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: This table does not include recycled water produced and used by the City because the recycled water is used outside of the City water service area.				

Table 6-9 – Water Supplies – Projected (DWR Table 6-9)

Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply		Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Groundwater (not desalinated)	Merced Subbasin	24,418		26,691		24,935		27,765			
Recycled Water	Wetlands & agriculture	0		0		0		0			
Exchanges	MID for irrigation			60		60		60			
Transfers	MID for SWTP					4,000		4,000			
	Total	24,418	0	26,751	0	28,995	0	31,825	0	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.											
NOTES											

6.1.10 Special Conditions

Numerous special conditions may affect water supplies. The potential impacts of climate change on the City water supplies were discussed in Section 4.4. Regulatory conditions and other locally applicable criteria are not anticipated to affect the City's water supply.

6.2 Energy Use

Legal Requirements:

CWC Section 10631.2. (a):
In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:
(1) An estimate of the amount of energy used to extract or divert water supplies.
(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
(3) An estimate of the amount of energy used to treat water supplies.
(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
(6) An estimate of the amount of energy used to place water into or withdraw from storage.
(7) Any other energy-related information the urban water supplier deems appropriate.

The City uses energy to pump groundwater through a wellhead perchloroethylene (PCE) treatment system at one well and from well sites into the distribution system. Energy intensity was calculated using the tables provided by DWR. DWR Table O-1B was selected for reporting the water delivery product energy usage. The energy use tables for retail water delivery, wastewater, and recycled water are provided in **Appendix G**.

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7 Water Service Reliability and Drought Risk Assessment

The UWMPA requires that the UWMP address the reliability of the City's long term water supplies. This includes a description of supply constraints which may impact the supply. Also included is a comparison between the City's supply and demand for a normal year, single-dry year, and five-consecutive year drought.

7.1 Water Service Reliability Assessment

Legal Requirements:

CWC Section 10635(a):
Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Expected water service reliability pursuant to Section 10631 of the Water Code is assessed in the following sections.

7.1.1 Service Reliability – Constraints on Water Sources

Legal Requirements:

CWC Section 10631 (b)(1):
A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

Given there are a variety of circumstances that can render a source inconsistent, determining the supply reliability for the City is difficult because of the complex factors that accompany a water source. These factors include legal issues, environmental constraints, water quality, and climatic variations.

7.1.1.1 Legal

The supplies the City relies upon are neither in the process of adjudication nor the subject of any new legislation limiting them. Therefore, the City does not anticipate legal factors influencing the reliability of groundwater within the near term. However, that could change in the future, with the implementation of the SGMA.

7.1.1.2 Environmental

The status of environmental regulation in California is routinely changing due to new legislation, endangered species statuses, and other factors. Should new environmental legislation come into existence, it could potentially impact the City's available supply. The recent water supply reductions in the Delta are an example of environmental water needs versus community water supplies. The City does not anticipate environmental factors influencing groundwater reliability.

7.1.1.3 Water Quality

Water quality testing, as summarized in the City's Consumer Confidence Reports for 2016 – 2019 (provided in **Appendix H**) show that the City consistently meets or surpasses all U.S. Environmental Protection Agency (EPA) and State drinking water health standards. Although the quality of the existing groundwater is expected to be adequate for potable water, previous assessments have concluded that groundwater quality is vulnerable from: gas stations (current and historic), dry cleaners, leaking underground storage tanks, leaks from the sewer collection system, chemical/petroleum pipelines, fertilizer, pesticide/herbicide application, agricultural drainage, farm chemical distributor/application service, low density septic systems, agricultural wells, and irrigation wells. Contaminants in the area include groundwater salinity, nitrate, iron, manganese, arsenic, radio-nucleotides, bacteria, petroleum hydrocarbons, pesticides, trichloroethylene, and perchloroethylene. Arsenic, PCE, methyl tert-butyl ether (MTBE), and nitrate have been historically detected in one or more City wells. However, the City has been able to achieve drinking water standards by either blending or taking wells offline.

The City does not anticipate groundwater quality effecting groundwater reliability within the planning period. Nevertheless, as testing methods become more discerning and regulations become more stringent, it can be expected that sources will need additional treatment in the future to stay in compliance.

7.1.1.4 Climatic Factors

Climate change adds uncertainties to water supply planning. Changes to temperatures and precipitation patterns may impact water demands and supply availability. As discussed in Section 4.4, resource management strategies are being implemented to mitigate the effects of the potential impacts due to climate change.

7.1.2 Service Reliability – Year Type Characterization

This section addresses the reliability of the City's water supply in average, single dry, and multiple dry water years. The City uses the following water year definitions from the DWR 2020 Guidebook:

- **Normal Year:** a year, or an averaged range of years, that most closely represents the average water supply available to the agency. For the purposes of this UWMP, the terms "normal" and "average" are used interchangeably.
- **Single Dry Year:** the year that represents the lowest water supply available to the agency.
- **Five-Consecutive-Year Drought:** the driest five-year historical sequence for the Supplier (Water Code Section 10612).

The City relies on groundwater as its sole source for supply, which is not as susceptible to annual runoff fluctuations as surface water. The single dry year and five-consecutive-year drought supplies are representative of annual groundwater pumping during the recent 2012-2016 drought. Rainfall data indicates that 2013 was the driest year for the City and is considered representative of the single dry year condition. The average year supply was estimated based on rainfall records from 2000 to 2020. From this data, 2009 was determined to be a representative average year.

Table 7-1 (DWR Table 7-1) summarizes the base years for the average, single dry, and five-consecutive-dry year periods. In addition, the available supply volume, and percent relative to the ten-year average (average year) is listed. The average year was selected by evaluating the ten-year per capita water use and determining the year that best represents the average. For the five-consecutive-dry year scenario, the available supply for the first and second years (2012 and 2013) was higher than the average year due to increased water usage to compensate for the lack of precipitation. In 2015, California enacted conservation measures, which required the City to reduce their usage relative to 2013.

Table 7-1 – Basis of Water Year Data (DWR Table 7-1)

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	Available Supplies if Year Type Repeats	
		☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☑ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *	% of Average Supply
Average Year	2009	23,306	100%
Single-Dry Year	2013	27,470	120%
Consecutive Dry Years 1st Year	2012	25,898	110%
Consecutive Dry Years 2nd Year	2013	27,470	120%
Consecutive Dry Years 3rd Year	2014	25,232	110%
Consecutive Dry Years 4th Year	2015	17,855	80%
Consecutive Dry Years 5th Year	2016	17,813	80%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volume available was estimated based on the volume pumped for the base year listed. % of Average Water Supply is rounded to the nearest 10%. Data does not accurately reflect available supply because volume pumped is not necessarily equivalent to available water supply. When available, sustainable yield information from the Merced Subbasin GSP activities will be used in the future.

7.1.3 Service Reliability – Supply and Demand Comparison

Legal Requirements:

CWC Section 10635(a):
Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

7.1.3.1 Water Service Reliability – Normal Year

The availability of the City's water supplies in normal years are described in Chapter 6 and summarized in **Table 7-2 (DWR Table 7-2)**. As shown in **Table 7-2 (DWR Table 7-2)**, the City's normal year supplies are adequate to meet projected normal year demands. The information in the table is taken from information presented previously in **Tables 4-5 and 6-9 (DWR Tables 4-3 and 6-9).**

Table 7-2 – Normal Year Supply and Demand Comparison (DWR Table 7-2)

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	24,418	26,751	28,995	31,825	0
Demand totals *(autofill from Table 4-3)*	24,418	26,751	28,995	31,825	0
Difference	0	0	0	0	0
NOTES:					

7.1.3.2 Water Service Reliability – Single Dry Year

The City's water supply and demand for the single dry year are assumed to be twenty percent higher than normal year supply and demand for planning purposes, as shown in **Table 7-1 (DWR Table 7-1)**. The projected single dry year supply and demand for 2020 through 2040 is presented in **Table 7-3 (DWR Table 7-3).** The projections indicate that the City's single dry year supplies are adequate to meet projected single dry year demands.

Table 7-3 – Single Dry Year Supply and Demand Comparison (DWR Table 7-3)

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	29,301	32,101	34,794	38,190	
Demand totals*	29,301	32,101	34,794	38,190	
Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES: Supply total is equal to projected Normal Year supply multiplied by 120% per DWR Table 7-1 estimates. Supply total is assumed to match with Demand total because groundwater pumping will operate to meet demands.					

7.1.3.3 Water Service Reliability – Five-Consecutive-Year Drought

Per CWC Section 10612, the five-consecutive-year drought is the driest five-year historical sequence for the Supplier. The City's water supply and demand for the five-consecutive-year drought are assumed to follow the pattern presented in **Table 7-1 (DWR Table 7-1).** As shown in **Table 7-4 (DWR Table 7-4)**, the City's five-consecutive-year drought supplies are adequate to meet projected demands.

Table 7-4 – Multiple Dry-Year Supply and Demand Comparison (DWR Table 7-4)

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	26,860	29,426	31,895	35,008	
	Demand totals	26,860	29,426	31,895	35,008	
	Difference	0	0	0	0	0
Second year	Supply totals	29,301	32,101	34,794	38,190	
	Demand totals	29,301	32,101	34,794	38,190	
	Difference	0	0	0	0	0
Third year	Supply totals	26,860	29,426	31,895	35,008	
	Demand totals	26,860	29,426	31,895	35,008	
	Difference	0	0	0	0	0
Fourth year	Supply totals	19,534	21,401	23,196	25,460	
	Demand totals	19,534	21,401	23,196	25,460	
	Difference	0	0	0	0	0
Fifth year	Supply totals	19,534	21,401	23,196	25,460	
	Demand totals	19,534	21,401	23,196	25,460	
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Supply totals are equal to projected Normal Year supply multiplied by % Average Supply Factors in DWR Table 7-1. Supply total is assumed to match with Demand total because groundwater pumping will operate to meet demands.						

7.1.4 Description of Management Tools and Options

Legal Requirements:

CWC Section 10620(f):
An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

The City is implementing water management tools and options that will maximize local resources and minimize the need to import water from other regions. These tools and options include being a member of the MIUGSA and participating in the implementation of the GSP, resource management strategies described in the City's Climate Action Plan and the MIRWMP, and shortage response actions/demand mitigation measures to address the overdraft condition in the groundwater basin. These tools and options are described in other sections of the UWMP.

Because groundwater is currently the sole source of water for the City and is projected to be a major source of water in the future, **Tables 7-2 through 7-4 (DWR Tables 7-2 through 7-4)** show water supply matching water demands. Groundwater wells will only be operated as needed to meet water demands, even though the groundwater supply could provide more water. This assumption should be updated when GSA allocations for the City are determined.

7.2 Drought Risk Assessment

Legal Requirements:

CWC Section 10635(b):
Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:
(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.
(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.
(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.
(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

This section provides a DRA based on the five driest consecutive years on record and plausible changes in climate, regulations, and other locally applicable criteria. A description of the data and methods used, basis for the supply shortage conditions, determination of the reliability of each source, and comparison of total water supplies and uses during a drought is provided below.

7.2.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The data used for the DRA is historical well data for 2012-2016, the driest five-year historical sequence for the City, and other historical records regarding the water system. Additional information is available in the Merced Subbasin GSP.

7.2.2 DRA Water Source Reliability

Based on historical well production data for 2012-2016, well production was not affected by drought conditions. Therefore, this DRA assumes that the total water supply is projected to meet demands during a five-year drought period. Recent water quality issues, potential regulations regarding new contaminants, and changes to the aquifer conditions may have adverse impacts on the water supply and should be monitored closely.

7.2.3 DRA Total Water Supply and Use Comparison

The total water supply and use comparison was performed using the Planning Tool Worksheet and is shown in **Table 7-5 (DWR Table 7-5).** The water supply and use assume the City will continue to implement Stage 2 shortage reduction actions because the groundwater basin is critically overdrafted. The comparison indicates that the City has sufficient water supply to meet projected demands during a five-year drought. The WSCP discusses measures for reducing water demands in case of water shortage conditions.

Table 7-5 – Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Total Water Use	24,754
Total Supplies	24,754
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	27,579
Total Supplies	27,579
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	25,807
Total Supplies	25,807
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	19,152
Total Supplies	19,152
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	19,534
Total Supplies	19,534
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

8 Water Shortage Contingency Plan

In response to the severe drought of 2012-2016, legislation was adopted in 2018 mandating that the UWMP include a WSCP that provides a detailed proposal for assessing water supply availability and response actions to water shortage conditions. The WSCP is to be a stand-alone document which will allow for amending the plan without amending the 2020 UWMP. The City WSCP is provided in **Appendix I**. Refer to the WSCP for the following DWR Tables:

- DWR Tables 8-1: WSCP Levels
- DWR Tables 8-2: Demand Reduction Actions
- DWR Tables 8-3: Supply Augmentation and Other Actions

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9 Demand Management Measures

This section provides a comprehensive description of the water conservation programs that the City has implemented, is currently implementing, and plans to implement in order to meet its urban water use reduction targets.

9.1 Existing Demand Management Measures for Retail Suppliers

Legal Requirements:

CWC Section 10631:
(e)Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
(B)The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
(i)Water waste prevention ordinances.
(ii)Metering.
(iii)Conservation pricing.
(iv)Public education and outreach.
(v)Programs to assess and manage distribution system real loss.
(vi)Water conservation program coordination and staffing support.
(vii)Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

The City has a water conservation and recycling program in place. The City takes water conservation very seriously and considers implementation of Demand Management Measures (DMM) as a necessity to achieve the goals of the conservation program.

The UWMPA presents two distinct methods for providing information related to DMM. One method is to be a signatory to the California Urban Water Conservation Council (CUWCC) MOU regarding urban water conservation. The MOU requires the preparation of an annual report, which can be used to fulfill the DMM requirements of the UWMP. The City is not a signatory to the MOU, and therefore this method of compliance cannot be used in the UWMP.

The other method for a water supplier who is not member of the CUWCC is to describe their current water conservation programs and demonstrate how they comply with the DMM specified in CWC Section 10631. The UWMPA was amended in 2014 to streamline DMM from 14 specific measures to six more general requirements and an "other" category.

9.1.1 Water Waste Prohibition Ordinances

Chapter 15.42 of the City of Merced Municipal Code (MMC), also referred to as the Water Conservation Ordinance prohibits the waste of water through prohibition of the following activities:

- Washing of sidewalks, driveways, and other outdoor surfaces
- Washing of the exterior of dwellings, buildings, and structures
- Non-recirculating fountains
- Use of water from the City's distribution system for non-domestic purposes when another adequate source of water is available
- External washing of trailers, trailer houses, mobile homes, and home exteriors unless in conjunction with painting
- The washing of boats or motor vehicles with a hose that is not fitted with an automatic shut-off device
- The indiscriminate running of water or washing with water not otherwise prohibited above which is wasteful and without reasonable purpose
- Watering landscape during and within 48 hours of measurable rainfall
- All car wash fundraising must be held at an established car wash facility that collects and recycles the runoff water before it enters the City's sewer system
- The serving of drinking water other than upon request in eating or drinking establishments
- Operators of hotels shall provide guests with the option of choosing not to have towels and linens laundered daily

The ordinance also includes mandatory conservation measures, replacement of broken plumbing fixtures and sprinklers, limited irrigation hours, and restrictions for outdoor irrigation by day of week (based on odd and even street address). The ordinance levies fines and penalties for noncompliance with the City's water waste prohibition. The penalties include termination of water service and financial penalties. A copy of the Water Conservation Ordinance is provided in **Appendix J**.

9.1.2 Metering

Legal Requirements:

CWC Section 526:
(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:
(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.
Water Code section 527
(a) An urban water supplier that is not subject to Section 526 shall do both the following:
(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

In 2015, the City was awarded the 2014 Water Energy Grant and received $2.5 million to install water meters on remaining customers still on a flat water rate. The City is fully metered for all customer classes,

including separate meters for single family residential, commercial, and industrial and schools. Multiple family customers are metered but not necessarily individually by living unit.

9.1.3 Conservation Pricing

On October 15, 2018, the City adopted a multi-year water rate program (**Appendix K**). Each metered customer pays a base rate according to meter size, plus a charge per one hundred cubic feet (HCF). **Table 9-1** summarizes the latest rate structure for the City.

Table 9-1 – Water Rate Schedule

Meter Size	Included HCF	Effective in July 2019	Effective in July 2020	Effective in July 2021
¾"	20	$31.00	$31.62	$32.25
1"	20	$31.00	$31.62	$32.25
1 ½"	40	$61.53	$62.76	$64.02
2"	64	$98.16	$100.12	$102.12
3"	128	$195.85	$199.77	$203.77
4"	200	$305.76	$311.88	$318.12
6"	400	$611.04	$623.36	$635.73
8"	640	$977.38	$996.93	$1,016.87
10"	960	$1,465.84	$1,495.16	$1,525.06
12"	1350	$2,061.15	$2,102.37	$2,144.42
Volumetric Charge:		$0.74 / HCF	$0.75 / HCF	$0.77 / HCF

9.1.4 Public Education and Outreach

The City distributes public information in its utility bills, press releases via radio and newspaper, school curriculum, educational flyers, commercials on television and in theatres, water conservation suggestions and videos on its webpage, and providing economical water conservation kits. The City also staffs a water conservation booth with their water conservation coordinator for many public events.

The outdoor watering schedule is available on the City's website, and is available in English, Spanish, and Hmong. The City's website has included a page which discusses water conservation and has information about ongoing rebates and assistance programs. The City is committed to its public information program as an ongoing effort.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

The City conducts a water audit using software provided by American Water Works Association (AWWA) annually. **Appendix D** contains a copy of water audits for 2015-2019. The results from the water audits were previously discussed in Chapter 4. Water audits are performed on an annual basis to identify leakage trends and to determine if/when corrective action to address leakage may be warranted.

9.1.6 Water Conservation Program Coordination and Staffing Support

The City has a full-time staff person as the water conservation coordinator for the City. This position is responsible for coordinating water conservation activities as well as issuing informational handouts, notices, and citations to customers for violating the City's water conservation ordinances.

9.1.7 Other Demand Management Measures

The City supports additional programs that provide rebates and promote water conservation. These programs are further discussed in the subsequent sections.

9.1.7.1 Residential Plumbing Retrofit

The City offers free low-flow shower heads and other types of low flow retrofit kits to customers at no cost to provide an incentive for their use. These are available to customers at the Finance and Public Works counter upon request. The City will continue to make these retrofit devices available for customers.

9.1.7.2 Washing Machine Rebate

This program provides financial incentives, typically in the form of rebate offers, to qualifying customers who install high-efficiency washing machines in their homes. While clothes washer rebates are available through other local utility providers, the City is not specifically implementing this Best Management Practice (BMP).

However, MID operates a high efficiency washing machine rebate program for their electricity customers. The program offers a $75 rebate for purchase of an energy saving clothes washing machine or dishwasher. While the program is a part of MID's energy conservation rebate program, MID estimates the washing machines provide a water conservations savings of 40 percent when compared to conventional clothes washing machines.

9.1.7.3 Commercial, Industrial, and Institutional Conservation Programs

Commercial, industrial, and institutional (CII) customers are treated the same as residential customers. As a result, any demand reduction measures which are available and marketed to residential customers are also available for commercial, industrial, and institutional customers. For example, surveys, plumbing retrofits, toilet replacements, and public information programs are equally available to these customers and have not been tracked separately. All commercial and industrial projects are reviewed by the City for conformance with the City's water efficient landscape ordinance. Separate water meters are always either recommended or required depending on the size of landscape areas at commercial, industrial, and institutional sites. All landscape projects on commercial sites are required to conform to the City's Water Efficient Landscape Ordinance.

9.1.7.4 Turf Replacement Initiative

DWR offered a rebate for single family residents and CII to remove their existing turf and replace it with landscape that requires little water. The City is seeking grant opportunities to fund a similar type of program in the future.

9.2 Reporting Implementation

9.2.1 Implementation over the Past Five Years

Legal Requirements:

CWC Section 10631:
(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1)(A) …a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

All DMM discussed in Section 9.1 were implemented and will continue to be implemented by the City. In 2016-2017, the City was awarded an Institutional Turf Replacement award to convert an area in a City park.

9.2.2 Implementation to Achieve Water Use Targets

Legal Requirements:

CWC Section 10631:
(f)(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

The City implemented the DMM discussed in Section 9.1 and was able to achieve the SB X7-7 2020 target as shown in **Table 5-2**.

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10 Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the addressing of the CWC requirements for public hearing, the UWMP adoption process, submitting and adopting the UWMP and making the document available to the public, plan implementation, and the process for amending an adopted UWMP.

10.1 Inclusion of All 2020 Data

As indicated in Chapter 2, the City uses a calendar year for water supply and demand accounting. This 2020 UWMP includes data through December 2020.

10.2 Notice of Public Hearing

10.2.1 Notice to Cities and Counties

Legal Requirements:

CWC Section 10621:
(b) Every urban water supplier required to prepare a plan shall…at least 60 days prior to the public hearing on the plan…notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.
Water Code Section 10642
…The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…

The City has provided formal written notification to Merced County, MID, and other appropriate agencies that the City's UWMP was being updated for 2020. As shown in **Table 10-1 (DWR Table 10-1)**, this notification was provided at least 60 days prior to the public hearing of the plan. Copies of the Final UWMP will be provided to Merced County and MID no later than 30 days after its submission to DWR. Copies of notification letters are included in **Appendix C**.

Table 10-1 – Notification to Cities and Counties (DWR Table 10-1)

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Merced County	Yes	Yes
NOTES: Merced Irrigation District, Univeristy of California, Merced, Merced College, Self Help Enterprises, the Leadership Counsel for Justice and Accountability, Weaver Union School District, Merced Union High School District, Merced City School District, and the Merced County Association of Governments were also provided with a notice of at least 60 days.		

10.2.2 Notice to the Public

Legal Requirements:

CWC Section 10642:
…Prior to adopting either [the plan or water shortage contingency plan], the urban water supplier shall make both of the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code [see below]. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.
Government Code section 6066
Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

The City is committed to encouraging the active involvement of diverse social, cultural, and economic elements of its citizenry. On August 5, 2021 and August 12, 2021, the City placed a notice in the local

newspaper stating that its UWMP was being updated and a WSCP was prepared and that a public hearing would be conducted to take testimony from members of the community. A copy of this notification is included in **Appendix C**. The Draft 2020 UWMP and Draft WSCP were made available for public inspection at the City of Merced Public Works Department, located at 1776 Grogan Avenue. In addition, the City also posted a copy of the Draft 2020 UWMP and Draft WSCP on its website (www.cityofmerced.org). The notice of public hearing to the public is included in **Appendix C**.

10.3 Public Hearing and Adoption

Legal Requirements:

CWC Section 10642:
…Prior to adopting either, the [plan or water shortage contingency plan], the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon.
Water Code Section 10608.26
(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:
(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.
(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

10.3.1 Public Hearing

A public hearing for the UWMP and WSCP was held on August 16, 2021, at the City Council Chamber. The hearing provided an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of the City. The plan adoption by City Council occurred on August 16, 2021. The City Resolution is included in **Appendix L**.

10.3.2 Adoption

Legal Requirements:

CWC Section 10642:
…After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing.

This UWMP was adopted by the City Council on August 16, 2021. The WSCP was adopted by the City Council on August 16, 2021. A copy of the adopted resolutions is provided in **Appendix L**.

10.4 Plan Submittal

Legal Requirements:

CWC Section 10621:
(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021…

CWC Section 10644:
(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.

CWC Section 10635:
(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

A copy of this 2020 UWMP will be submitted electronically to DWR within 30 days of adoption.

10.4.2 Electronic Data Submittal

Legal Requirements:

CWC Section 10644 (a)(2):
The plan, or amendments to the plan, submitted to the department … shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

This 2020 UWMP, including the WSCP, and associated data will be submitted electronically to DWR using the WUEdata submittal tool.

10.4.3 Submitting a UWMP, including WSCP, to the California State Library

The 2020 UWMP, including the WSCP, will be submitted on CD or hardcopy format to the California State Library within 30 days of adoption.

10.4.4 Submitting a UWMP to Cities and Counties

The 2020 UWMP will be submitted in electronic format to the Merced County and MID within 30 days of adoption.

10.5 Public Availability

Legal Requirements:

CWC Section 10645:
(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.
(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

Within 30 days of submitting the UWMP to DWR, the adopted UWMP will be available for public review during normal business hours at the City of Merced Public Works Department. The City will also post a copy of the adopted UWMP on its website (www.cityofmerced.org).

10.6 Notification to Public Utilities Commission

Legal Requirements:

CWC Section 10621 (c):
An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

The City is not regulated by the California Public Utilities Commission.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

Legal Requirements:

CWC Section 10621:
(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

CWC Section 10644:
(a)(1) Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

10.7.1 Amending a UWMP

The plan may be updated at any time when the urban water supplier believes significant changes have occurred in population, land use, and/or water sources that may affect the contents of the plan. If major changes are made to this 2020 UWMP, the City will hold an additional public hearing and City Council will re-adopt the plan. Copies of amendments or changes to the plan shall be submitted to DWR, the California State Library, Merced County, and MID within 30 days of adoption.

10.7.2 Amending a Water Shortage Contingency Plan

Legal Requirements:

CWC Section 10644 (b):
If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared…no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

If the City revises the WSCP after DWR has approved the 2020 UWMP, copies of amendments or changes to the plans will be submitted electronically to DWR through the WUEdata Portal within 30 days of its adoption.

Copies of the amended WSCP will also be sent to the California State Library, Merced County, and MID within 30 days of adoption.

11 References

[1] University of California Merced 2020 Long-Range Development Plan, March 2020.

[2] Merced County Forecast Summary, Eberhardt School of Business Center for Business & Policy Research, July 7, 2016.

[3] UC Merced 2020 Long Range Development Plan Final Subsequent Environmental Impact Report, March 2020.

[4] UC Merced Tomorrow Long Range Development Plan, Amended April 2017.

[5] Merced General Plan 2030, Final, January 2012.

[6] 2018 Merced Integrated Regional Water Management Plan Update, Woodard & Curran, February 2019.

[7] California's Groundwater Update 2020, Bulletin 118, Draft, March 2021.

[8] City of Merced Water Master Plan, AECOM, 2017.

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APPENDIX C

MERCED GATEWAY WSA – CONSISTENCY WITH DWR GUIDELINES

Merced Gateway WSA – Consistency with DWR Guidelines

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
Section 1 (page 2). Does SB 610 or SB221 apply to the proposed project?	Is the project subject to SB 610? Is the project subject to CEQA (Water Code §10910(a)? If yes, continue.	WSA Section 1.1. Yes, the project is subject to SB610 and CEQA.
	Is it a "Project" as defined by Water Code §10912(a) or (b)? If yes, to comply with SB 610 go to Section 2.0, page 4.	WSA Section 1.1. Yes, the Project is considered to meet the definition of "project" per Water Code §10912(a) or (b).
	Is the project subject to SB 221? Does the tentative map include a "subdivision" as defined by Government Code §66473.7(a)(1)? If no, stop.	Yes
Section 2.0 (page 4). Who will prepare the SB 610 analysis?	Is there a public water system ("water supplier") for the project (Water Code §10910(b)? If no, go to Section 3.0, page 6.	WSA Section 2.1. Yes, the project site will connect to a public water system.
Section 3.0 (page 6). Has an assessment already been prepared that includes this project?	Has this project already been the subject of an assessment (Water Code §10910(h)? If no, go to Section 4.0, page 8.	No, the Project has not been the subject of an assessment.
Section 4.0 (page 8). Is there a current Urban Water Management Plan?	Is there an adopted urban water management Plan (Water Code §10910(c)? If yes, continue. If yes, the information from the UWMP related to the proposed water demand for the project may also be used for carrying out Section 5.0, Steps 1 and 2, Section 7; proceed to Section 5, page 10 of the Guidelines.	Yes, there is an Urban Water Management Plan (UWMP) for the proposed project location described in WSA Section 3.2.
	Is the project water demand for the project accounted for in the most recent UWMP (Water Code §10910(c)(2)? If no, go to Section 5.0, page 10.	Yes
Section 5.0 (page 10). What information should be included in an assessment?	Step One (page 13). Documenting wholesale water supplies.	The Project is not a retail water supplier and would not include the use of wholesale water supplies.
	Step Two (page 17). Documenting Supply if Groundwater is a Source.	The proposed water supply wells are located within the City of Merced. WSA Sections 1.3, 2.3 and 3.2.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	Specify if a groundwater management plan or any other specific authorization for groundwater management for the basin has been adopted and how it affects the water supplier's use of the basin.	WSA Section 3.2 The water supply wells are located within the Merced Groundwater Sustainability Agencies which includes the City of Merced.
	Description and analysis of the amount and location of groundwater pumped by the water supplier for the past five years. Include information on proposed pumping locations and quantities. The description and analysis is to be based on information that is reasonably available, including, but not limited to, historic use records from DWR.	City of Merced historic records are included in WSA Section 3.0. WSA Section 1.3 provides a description of the Project's water requirements.
	Analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the water supplier.	WSA Section 3.2. The quantity of water available in the City of Merced is sufficient for the Project.
	Step 3 (page 21). Documenting project demand (Project Demand Analysis).	WSA Section 1.3. Addresses the Project water demands
	Step 4 (page 26). Documenting dry year(s) supply.	WSA Section 3.2. Addresses water supply availability including during dry years.
	Step 5 (page 31). Documenting dry year(s) demand.	WSA Section 3.2 addresses annual demands, including dry year scenarios.
Section 6.0 (page 33). Is the projected water supply sufficient or insufficient for the proposed project		WSA Section 4.0 summarizes how the identified water supply/supplies are considered sufficient for the Project.
Section 7.0 (page 35). If the projected supply is determined to be insufficient. Section 8.0 (page 38). Final SB 610 assessment actions by lead agencies.	Does the assessment conclude that supply is "sufficient"? If no, continue. The lead agency shall review the WSA and must decide whether additional water supply information is needed for its consideration of the proposed project. The lead agency "shall determine, based on the entire record, whether projected water supplies will be	WSA Section 4.0 concludes that sufficient water supplies are available for the Project. The WSA for the Project must be approved prior to or in concurrence with the EIR.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	sufficient to satisfy the demands of the project, in addition to existing and planned future uses."	
	The description of the groundwater basin may be excerpted from the groundwater management plan, from DWR Bulleting 118, California's Ground Water, or from some other document that has been published and that discusses the basin boundaries, type of rock that constitutes the aquifer, variability of the aquifer material, and total groundwater in storage (average specific yield times the volume of the aquifer).	WSA Section 2.2 provides a description of the groundwater basin characteristics using all available resources, including DWR Bulletin 118.
	In an adjudicated basin the amount of water the urban supplier has the legal right to pump should be enumerated in the court decision.	Basin is not adjudicated.
	The Department of Water Resources has projected estimates of overdraft, or "water shortage", based on projected amounts of water supply and demand (basin management) are projected by the Watermaster agency (AVEK) in WSA Section 3.2, the hydrologic region level in	Basin groundwater resources are discussed in WSA Section 2.3.
	Bulletin 160, California Water Plan Update. Estimates at the basin or subbasin level will be projected for some basins in Bulletin 118. If the basin has not been evaluated by DWR, data that indicate groundwater level trends over a period of time should be collected and evaluated.	
	If the evaluation indicates an overdraft due to existing groundwater extraction, or	WSA Section 3.2. The referenced and Appendicized City of Merced 2020 Urban

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	projected increases in groundwater extraction, describe actions and/or program designed to eliminate the long term overdraft condition.	Water Master Plan describes in detail the subject actions and programs.

APPENDIX F
ACOUSTICAL ANALYSIS

ACOUSTICAL ANALYSIS

MERCED GATEWAY RESIDENTIAL DEVELOPMENT
MERCED, CALIFORNIA

WJVA Project No. 24-31

PREPARED FOR

LENNAR HOMES OF CALIFORNIA, INC.
8080 NORTH PALM AVENUE, SUITE 110
FRESNO, CALIFORNIA 93711

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

OCTOBER 22, 2024

INTRODUCTION

The project, Merced Gateway, is a proposed 587-lot single-family residential development, to be located in Merced, California. The project site is located east of S. Coffee Street (and east of the future alignment of Plum Drive), south of Gerrard Avenue and north of Mission Avenue. The project site is dissected by Campus Parkway. The project would also include an approximate 3.7-acre parcel at the northeast portion of the project site, to be used as a park.

This analysis, prepared by WJV Acoustics, Inc. (WJVA), is based upon a project site plan provided by the applicant, traffic data provided by the Merced County Association of Governments (MCAG) and the findings of on-site noise level measurements. Revisions to the site plan may affect the findings and recommendations of this report. The site plan is provided as Figure 1.

Appendix A provides a description of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects. Appendix B provides typical A-weighted sound levels for common noise sources.

NOISE EXPOSURE CRITERIA

CITY OF MERCED

General Plan

The Noise Element of The Merced Vision 2030 General Plan[1] (revised 6/20/12) sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}) or Community Noise Equivalent Level (CNEL) to describe noise exposure for noise compatibility planning purposes. Both the L_{dn} and CNEL represent the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The CNEL includes an additional penalty of 5 dB (technically 4.77 dB) that is added to noise levels occurring during the evening hours between 7:00 p.m. and 10:00 p.m. Both the L_{dn} and CNEL represent cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. The L_{dn} and CNEL are considered to be equivalent descriptors of the community noise environment for the purposes of this study.

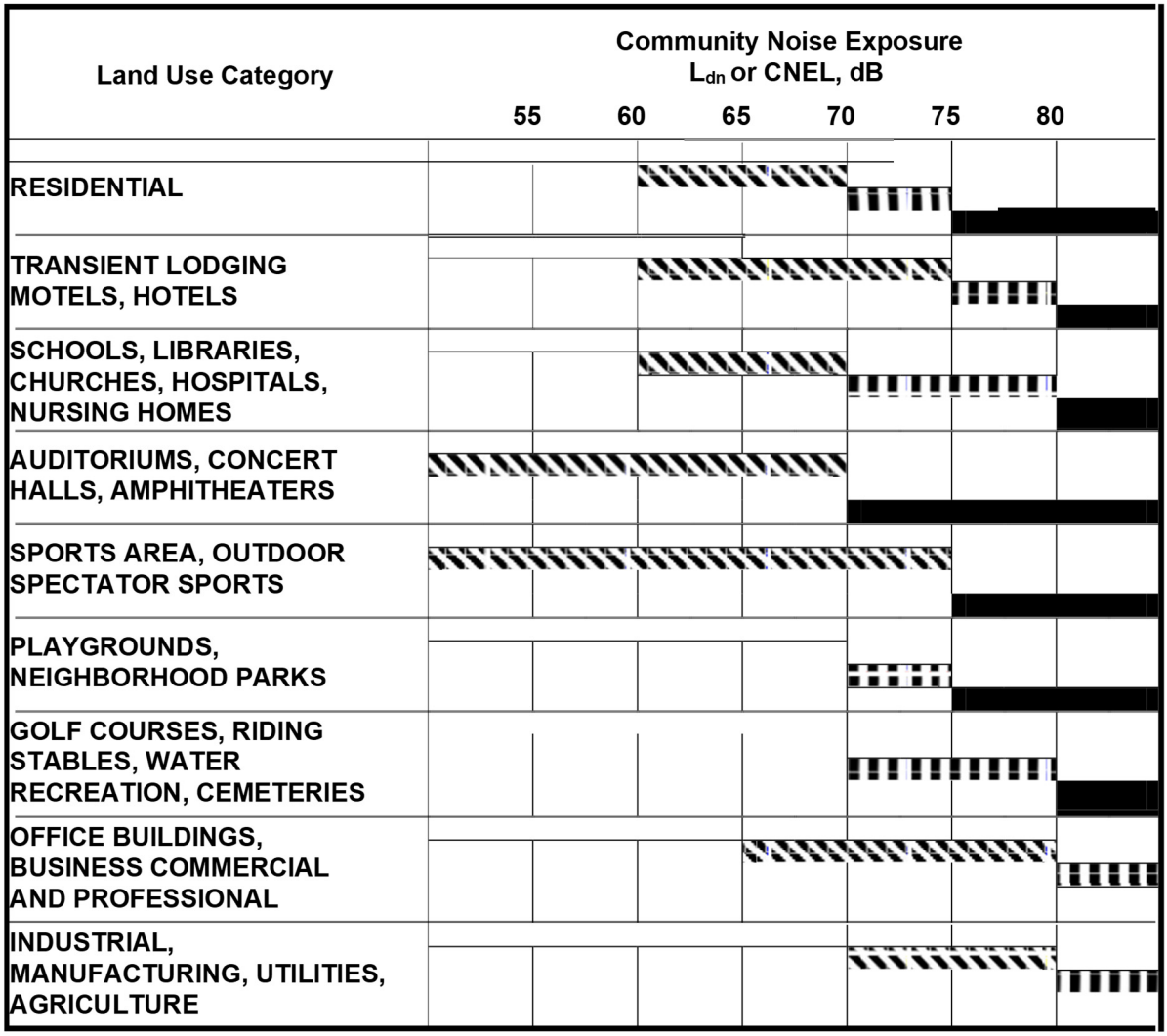
Policy N-1.4 of the noise element establishes land use compatibility criteria for exterior and interior residential spaces.

Policy N-1.4 states *"A maximum of 65 dB L_{dn}/CNEL for exterior noise level for residential projects proximate to major road way and railroad corridors. For other arterial, collector and local streets a maximum of 60 dB L_{dn}/CNEL exterior noise with a maximum of 65 dB Ldn/CNEL when all the best available noise-reduction techniques have been exhausted without achieving 60 dB, and the strict application of such a maximum becomes a hindrance to development needed or typical for an area."*

The City of Merced noise compatibility matrix, for transportation noise sources, is provided below as Table I. Table II provides the City of Merced noise level standards for non-transportation (stationary) noise sources. These nose standards typically apply to outdoor activity areas. Outdoor activity areas generally include backyards of single-family residences, individual patios or decks of multi-family developments and common outdoor recreation areas of multi-family developments. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation.

Additionally, Policy N-1.4 of the noise element requires that interior noise levels attributable to exterior transportation noise sources not exceed 45 dB L_{dn}. The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep.

Table I: NOISE COMPATABILITY MATRIX (TRANSPORTATION NOISE SOURCES)



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise requirements

NORMALLY UNACCEPTABLE

New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development clearly should not be undertaken.

TABLE II: Noise Exposure Thresholds – Non-Transportation Noise Sources

TABLE II NON-TRANSPORTATION NOISE LEVEL STANDARDS, dBA CITY OF MERCED	
Daytime (7 a.m.-10 p.m.)	Nighttime (10 p.m.-7 a.m.)
L_{eq}	L_{eq}
55	45

Source: City of Merced Noise Element of General Plan

PROJECT SITE NOISE EXPOSURE

The project, Merced Gateway, is a proposed 587-lot single-family residential development, to be located in Merced, California. The project site is located east of S. Coffee Street (and east of the future alignment of Plum Drive), south of Gerrard Avenue and north of Mission Avenue. The project site is dissected by Campus Parkway. The project site is exposed to noise levels associated with vehicle traffic on these roadways.

The distance from the center of the individual residential lot backyards to the centerline of the roadways of concern are approximately as follows:

- E. Gerrard Avenue: 70 feet
- Campus Parkway: 100 feet
- E. Mission Avenue: 75 feet

FHWA Traffic Noise Model-

Noise exposure from traffic on E. Gerrard Avenue (west of Campus Parkway), Campus Parkway (east of Coffee Street) and Mission Avenue (east of Coffee Street) was calculated for existing and future (2046) conditions using the FHWA Traffic Noise Model and traffic data obtained from Merced County Association of Governments (MCAG). A description of the FHWA traffic noise model and methodology used for the analysis is provided below.

WJVA utilized the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Noise level measurements and concurrent traffic counts were conducted by WJVA staff within the project site on May 21, 2024. The purpose of the measurements was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. Two traffic noise measurement sites were located along Campus Parkway (one on the north side of the roadway and one on the south side of the roadway) and one traffic noise measurement site was located within the project site, along the south side of Gerrard Avenue. Traffic volumes along Mission Avenue were too low at the time of the project site visit to accurately perform a model calibration noise measurement.

The speed limit posted in the project vicinity was 55 mph (miles per hour) along Campus Parkway and 35 mph along Gerrard Avenue. The project vicinity and noise monitoring site location are

provided as Figure 2. Photographs of the Campus Parkway (north side), Campus Parkway (south side) and Gerrard Avenue traffic noise measurement sites are provided as Figure 3, Figure 4, and Figure 5, respectively.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2" microphone. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meter was calibrated in the field prior to use with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements. The microphone was located on a tripod at 5 feet above the ground. The project site presently consists of undeveloped land and a portion is currently used for industrial purposes.

Noise measurements were conducted in terms of the equivalent energy sound level (L_{eq}). Measured L_{eq} values were compared to L_{eq} values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of the comparison are shown in Table III.

TABLE III

COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS MERCED GATEWAY RESIDENTIAL DEVELOPMENT

	Campus Pkwy (north side)	Campus Pkwy (south side)	Gerrard Ave
Measurement Start Time	2:30 p.m.	2:55 p.m.	3:20 p.m.
Observed # Autos/Hr.	372	492	216
Observed # Medium Trucks/Hr.	24	72	0
Observed # Heavy Trucks/Hr.	12	12	12
Observed Speed (MPH)	55	55	35
Distance, ft. (from center of roadway)	180	165	50
L_{eq}, dBA (Measured)	52.3	55.4	59.9
L_{eq}, dBA (Predicted)	58.5	61.0	60.8
Difference between Predicted and Measured L_{eq}, dBA	**6.2**	**5.6**	**0.9**

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

From Table III it may be determined that the traffic noise levels predicted by the FHWA Model were approximately 6 dB higher than those measured for the conditions observed at the time of the noise measurements for along Campus Parkway. This overprediction of the model is due to topographic shielding of traffic noise as a result of the elevated roadway over the project site area. However, for the purpose of this analysis and offset was not applied to modeled traffic noise exposure levels, and noise exposure levels described along Campus Parkway should therefore be considered a worst-case assessment.

Traffic noise levels predicted by the FHWA model were 0.9 dB higher that those measured for the conditions observed at the time of the noise measurement along Gerrard Avenue. This is considered to be reasonable agreement between the noise model and the noise measurements, and therefore no adjustments to the model are necessary along Gerrard Avenue.

Annual Average Daily Traffic (AADT) data for Gerrard Avenue, Campus Parkway and Mission Avenue, in the project vicinity was obtained from MCAG. Truck percentages and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. Table IV, Table V and Table VI summarize annual average traffic data used to model noise exposure within the project site along Gerrard Avenue, Campus Parkway and Mission Avenue, respectively.

TABLE IV

TRAFFIC NOISE MODELING ASSUMPTIONS
MERCED GATEWAY RESIDENTIAL DEVELOPMENT

	Gerrard Avenue	
	Existing Conditions	2046 Traffic Conditions
Annual Avenue Daily Traffic (AADT)	1,360	1,580
Day/Night Split (%)	90/10	
Assumed Vehicle Speed (mph)	35	
% Medium Trucks (% AADT)	2	
% Heavy Trucks (% AADT)	1	

Sources: MCAG
WJV Acoustics, Inc.

TABLE V

TRAFFIC NOISE MODELING ASSUMPTIONS
MERCED GATEWAY RESIDENTIAL DEVELOPMENT

	Campus Parkway	
	Existing Conditions	2046 Traffic Conditions
Annual Avenue Daily Traffic (AADT)	4,280	6,980
Day/Night Split (%)	90/10	
Assumed Vehicle Speed (mph)	55	
% Medium Trucks (% AADT)	2	
% Heavy Trucks (% AADT)	1	

Sources: MCAG
WJV Acoustics, Inc.

TABLE VI

TRAFFIC NOISE MODELING ASSUMPTIONS
MERCED GATEWAY RESIDENTIAL DEVELOPMENT

	Mission Avenue	
	Existing Conditions	2046 Traffic Conditions
Annual Avenue Daily Traffic (AADT)	640	720
Day/Night Split (%)	90/10	
Assumed Vehicle Speed (mph)	45	
% Medium Trucks (% AADT)	2	
% Heavy Trucks (% AADT)	1	

Sources: MCAG
WJV Acoustics, Inc.

Exterior Noise Level Compliance-

Using data from Table IV, Table V, and Table VI, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed residential lots from Gerrard Avenue, Campus Parkway and Mission Avenue. Table VII provides the noise exposure levels at these roadways for future 2046 traffic conditions, at the closest proposed residential setbacks from each roadway.

TABLE VII

MODELED TRAFFIC NOISE EXPOSURE LEVELS, dB, L_{dn}
MERCED GATEWAY RESIDENTIAL DEVELOPMENT

Roadway	Existing Conditions	2046 Conditions
Gerrard Avenue	53	54
Campus Parkway	60	62
Mission Avenue	52	52

Source: WJV Acoustics
MCAG

Reference to Table VII indicates that the traffic noise exposure at the closest residential setbacks to Campus Parkway would be approximately 60 dB L_{dn} for existing conditions and approximately 62 dB L_{dn} for future (2046) traffic conditions on Campus Parkway (based upon the traffic volumes provided by MCAG). Such noise exposure levels exceed the City of Merced exterior noise level standard of 60 dB L_{dn}, and mitigation measures must be included in project design along Campus Parkway. Traffic noise levels at the closest proposed residential lots to both Gerrard Avenue and Mission Avenue would not be expected to exceed 60 dB L_{dn} (based upon the traffic volumes provided by MCAG) and mitigation measures are therefore not required for noise compliance along these roadways.

Exterior Noise Level Compliance and Mitigation (Campus Parkway)-
As described above, exterior noise levels at the closest proposed residential lots along Campus Parkway would be expected to exceed the City of Merced exterior noise level standard of 60 dB L_{dn} for residential land uses, and therefore mitigation measures must be incorporated for project noise compliance. A sound wall will be required along the project site adjacent to Campus Parkway.

A sound wall insertion loss program based on the FHWA Model was used to calculate the insertion loss (noise reduction) provided by the proposed sound walls. The model calculates the insertion loss of a wall of given height based on the effective height of the noise source, height of the receiver, distance from the receiver to the wall, and distance from the noise source to the wall. The standard assumptions used in the sound wall calculations are effective source heights of 8, 2 and 0 feet above the roadway for heavy trucks, medium trucks, and automobiles, respectively. The standard height of a residential receiver is five (5) feet above the ground elevation. Additionally, Campus Parkway is elevated approximately 3-4 feet above project site grade, adjacent to the project site areas.

Based upon the above-described assumptions and method of analysis, the noise level insertion loss values for the proposed sound walls were calculated. The calculations indicated that the proposed 7-foot sound wall along Campus Parkway would reduce exterior noise exposure at the residential lots adjacent to Campus Parkway by approximately 5 dB, with the resulting noise exposure of 57 dB L_{dn}. Such levels would not exceed the City of Merced exterior noise standard of 60 dB L_{dn}. The sound walls must be turned inward at lots 24, 25, 62, 74, 96 and 97, as indicated on Figure 1.

The above-described sound walls would be effective at first-floor receiver locations only. As such, if second-floor balconies are included in the units adjacent to Campus Parkway, exterior noise levels within any second-floor balconies would exceed the 60 dB L_{dn} exterior noise level standard at the first row of lots adjacent to and facing toward Campus Parkway.

3.7-Acre Park (Campus Parkway)-
The project would also include the development of a park on an approximately 3.7-acre parcel of land within the northeast portion of the project site. The City of Merced establishes an exterior noise exposure of up to 70 dB L_{dn} for park land uses as “normally acceptable”. Using the above-described FHWA traffic noise model, WJVA calculated the exterior noise exposure (as determined at the approximate center point of the overall park area) to be approximately 58 dB L_{dn} for existing traffic conditions and approximately 60 dB L_{dn} for future 2046 traffic conditions. Such levels do not exceed the City of Merced exterior noise compatibility criteria of 70 dB L_{dn} for park land uses.

Interior Noise Level Compliance-
The interior noise level standard for the City of Merced is 45 dB L_{dn}. Worst-case exterior project site noise exposure was determined to be approximately 62 dB L_{dn} for 2046 traffic conditions

along Campus Parkway. This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 17 dB (62-45=17).

A specific analysis of interior noise levels was not performed. However, it may be assumed that residential construction methods complying with current building code requirements will reduce exterior noise levels by approximately 25 dB if windows and doors are closed. This will be sufficient for compliance with City of Merced 45 dB L_{dn} interior standard at all proposed residential units. Requiring that it be possible for windows and doors to remain closed for sound insulation means that air conditioning or mechanical ventilation will be required.

CONCLUSIONS AND RECOMMENDATIONS

The 587-lot single-family residential development will comply with applicable City of Merced exterior and interior noise level criteria provided the following measures are incorporated into final project design.

- A sound wall should be constructed to a minimum height of 7 feet above ground level along the project site frontage with Campus Parkway. The sound wall would reduce traffic noise exposure by approximately 5 dB at the closest lots to the roadway, resulting in an exterior noise level of approximately 57 dB L_{dn} withing the backyard of these single-family residential lots. The sound walls must be turned inward at lots 24, 25, 62, 74, 96 and 97, as indicated on Figure 1. Suitable construction materials include concrete blocks, masonry, or stucco on both sides of a wood or steel stud wall.

- If two-story construction is proposed for the first row of homes adjacent to Campus Parkway, the required sound wall would not reduce exterior noise levels at second-floor receiver locations and exterior noise levels within individual balconies (if proposed) along the first row of homes facing Campus Parkway would exceed 60 dB L_{dn}.

- Air conditioning or mechanical ventilation should be installed in the units so that it will be possible for windows and doors to remain closed for sound insulation purposes.

The conclusions and recommendations of this acoustical analysis are based upon the best information known to WJV Acoustics Inc. (WJVA) at the time the analysis was prepared concerning the proposed site plan, traffic volumes and roadway configurations. Any significant changes in these factors will require a reevaluation of the findings of this report. Additionally, any significant future changes in motor vehicle technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

Respectfully submitted,

Walter J. Van Groningen
President

WJV:wjv

FIGURE 1: SITE PLAN

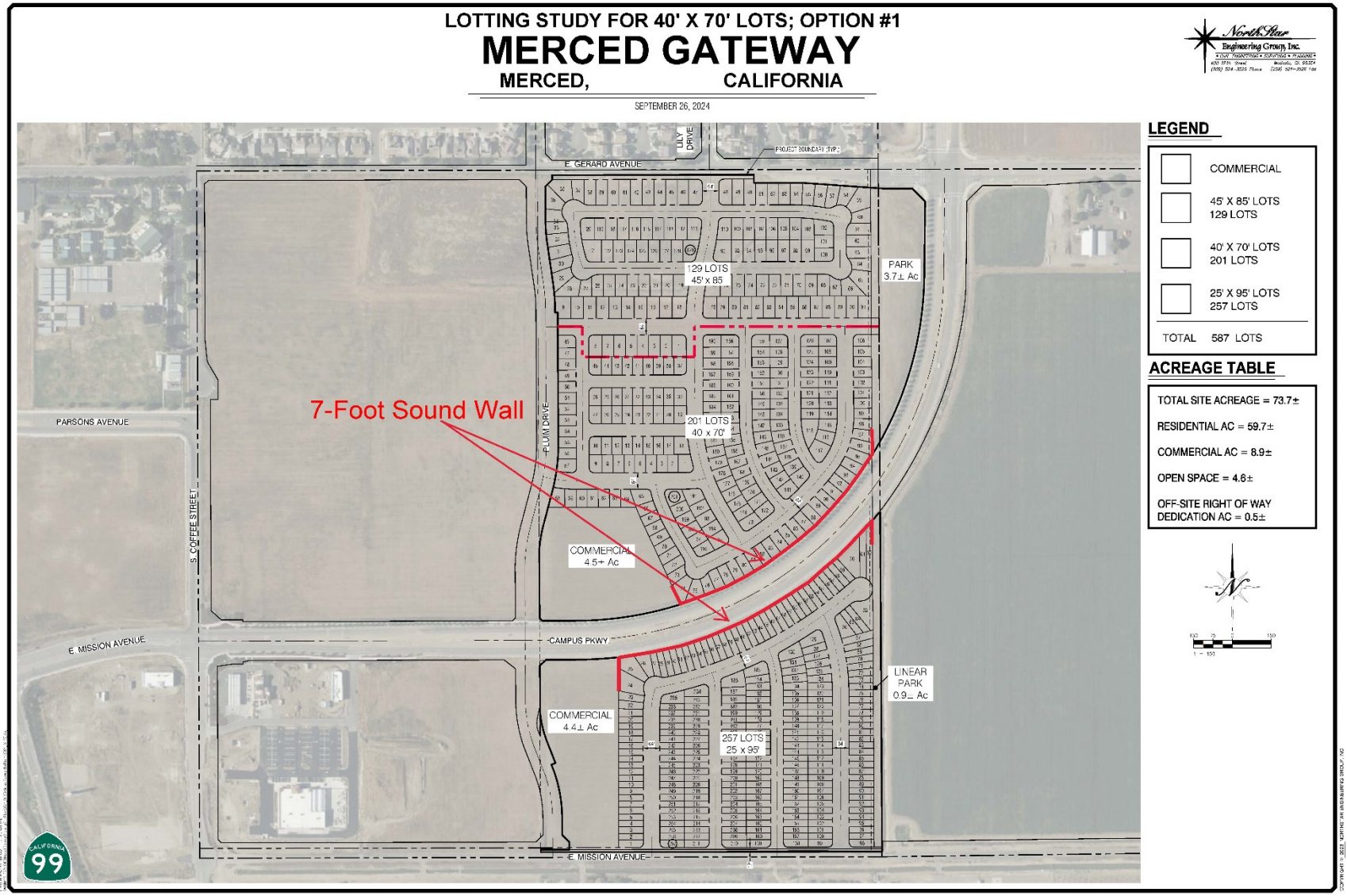


FIGURE 2: PROJECT SITE VICINITY AND TRAFFIC NOISE MEASUREMENT LOCATIONS

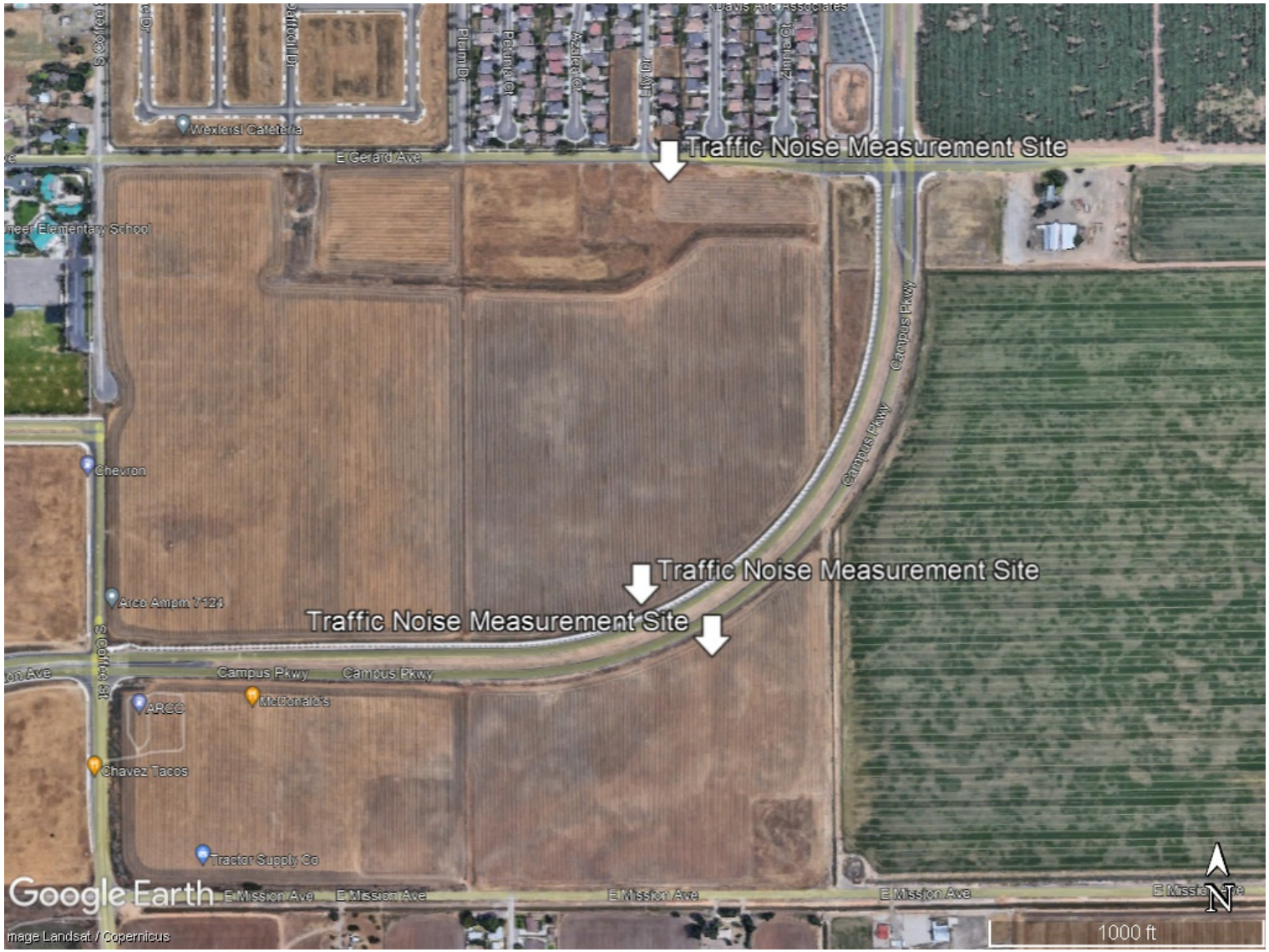


FIGURE 3: CAMPUS PARKWAY NORTH, TRAFFIC NOISE MEASUREMENT SITE

FIGURE 4: CAMPUS PARKWAY SOUTH, TRAFFIC NOISE MEASUREMENT SITE

FIGURE 5: GERRARD AVENUE, TRAFFIC NOISE MEASUREMENT SITE

APPENDIX A

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

A-2

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

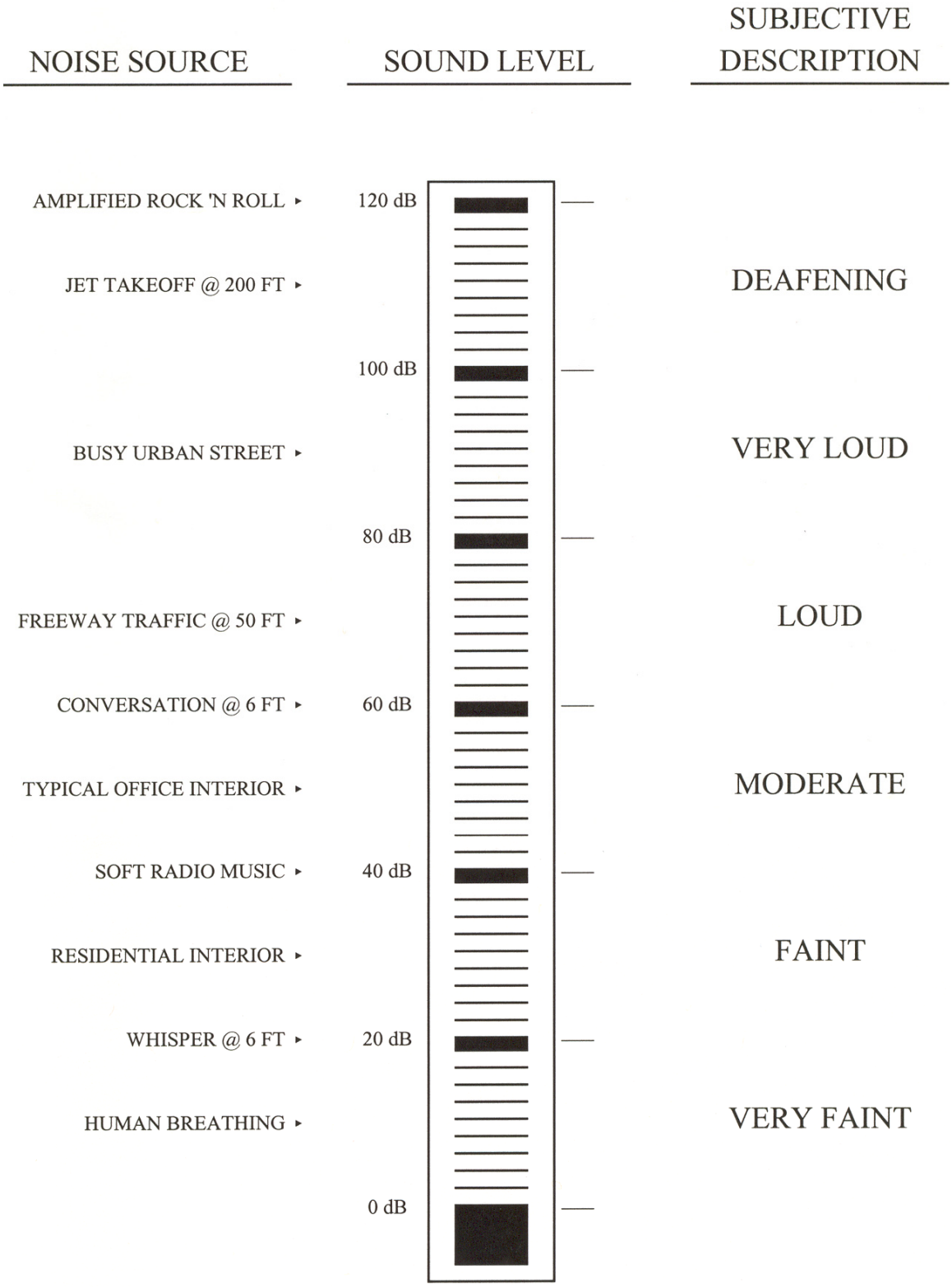
NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS



APPENDIX G
TRANSPORTATION IMPACT STUDY

Merced Gateway Residential/Commercial Development

Transportation Impact Study
January 2025

Prepared by:
VRPA Technologies, Inc.
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Merced Gateway Residential/Commercial Development
Transportation Impact Study

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Table of Contents

Section	Description	Page
	Executive Summary	
1.0	Introduction	1-1
1.1	Description of the Region/Project	1-1
1.1.1	Project Access	1-1
1.1.2	Study Area	1-1
1.1.3	Study Scenarios	1-1
1.2	Methodology	1-5
1.2.1	Intersection Analysis	1-5
1.2.2	Queuing Analysis	1-5
1.3	Policies to Maintain Level of Service	1-5
2.0	Existing Conditions	2-1
2.1	Existing Traffic Counts and Roadway Geometrics	2-1
2.2	Existing Functional Roadway Classification System	2-1
2.3	Affected Streets and Highways	2-2
2.4	Level of Service	2-2
2.4.1	Intersection Capacity Analysis	2-2
2.4.2	Queuing Analysis	2-3
3.0	Traffic Impacts	3-1
3.1	Trip Generation	3-1
3.2	Trip Distribution	3-1
3.3	Project Traffic	3-1
3.4	Approved/Pending Project Traffic	3-5
3.5	Opening Year Traffic Conditions	3-5
3.6	Horizon Year 2046 Traffic Conditions	3-5
3.7	Impacts	3-5
3.7.1	Intersection Capacity Analysis	3-5
3.7.2	Queuing Analysis	3-6
3.8	Vehicle Miles Traveled (VMT Analysis	3-6
4.0	Roadway Improvements	4-1
4.1	Roadway Improvements	4-1
4.2	Equitable Share Responsibility	4-1

Appendices

Appendix A – Traffic Counts
Appendix B – Synchro Worksheets
Appendix C – Approved/Pending Project Information

List of Tables

1-1	Signalized Intersection Level of Service Definitions	1-7
1-2	Unsignalized Intersection Level of Service Definitions	1-8
2-1	Existing Intersection Operations	2-7
2-2	Existing Queuing Operations	2-8
3-1	Project Trip Generation	3-1
3-2	Intersection Operations	3-13
3-3	Queuing Operations	3-14
4-1	Left Turn and Right Turn Storage Requirements	4-2
4-2	Horizon Year 2046 Equitable Share Responsibility	4-3

List of Figures

1-1	Regional Location	1-2
1-2	Project Location	1-3
1-3	Project Site Plan	1-4
2-1	Existing Lane Geometry	2-4
2-2	Existing AM Peak Hour Traffic	2-5
2-3	Existing PM Peak Hour Traffic	2-6
3-1	Trip Distribution	3-2
3-2	Project AM Peak Hour Traffic	3-3
3-3	Project PM Peak Hour Traffic	3-4
3-4	Opening Year 2025 Plus Project AM Peak Hour Traffic	3-7
3-5	Opening Year 2025 Plus Project PM Peak Hour Traffic	3-8
3-6	Horizon Year 2046 Without Project AM Peak Hour Traffic	3-9
3-7	Horizon Year 2046 Without Project PM Peak Hour Traffic	3-10
3-8	Horizon Year 2046 Plus Project AM Peak Hour Traffic	3-11
3-9	Horizon Year 2046 Plus Project PM Peak Hour Traffic	3-12

Executive Summary

This Transportation Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed Merced Gateway Residential and Commercial Development (Project) in the City of Merced. The Project proposes to develop 587 dwelling units and 8.9 acres of local commercial development on a total of 53.8 acres of land. The Project is located at the northeast and southeast corners of Campus Parkway and Pluim Drive and is generally bounded by Gerard Avenue to the north and Mission Avenue to the South.

Vehicular access will be provided at driveways along Gerard Avenue, Pluim Drive, and Mission Avenue. The Project site plan (Figure 1-3) shows the approximate locations of the proposed access points.

STUDY AREA

The following intersections included in this TIS were determined in consultation with City of Merced staff and include:

Intersections

1. Gerard Avenue and Pluim Drive
2. Gerard Avenue and Campus Parkway
3. Mission Avenue and State Route (SR) 99 SB Off Ramp
4. Mission Avenue and SR 99 NB Off Ramp
5. Campus Parkway and Pluim Drive (With Project Scenario Only)
6. Mission Avenue and Pluim Drive (With Project Scenario Only)

Study Scenarios

The TIS completed for the Project includes level of service (LOS) analysis for the following traffic scenarios.

- ✓ Existing Conditions
- ✓ Opening Year Plus Project
- ✓ Horizon Year 2046 Without Project
- ✓ Horizon Year 2046 Plus Project

IMPACTS

Intersections

Table E-1 provides the intersection level of service analysis for the study intersections considering the study scenarios discussed above. The results of the analysis show that all the study intersections currently operate at acceptable levels of service considering the City of Merced LOS

criteria.

Table E-1
Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING		OPENING YEAR PLUS PROJECT		HORIZON YEAR 2046 WITHOUT PROJECT		HORIZON YEAR 2046 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. Gerard Avenue / Pluim Drive	One-Way Stop Sign (Two-Way Stop w/ Project)	D	AM	11.5	B	13.0	B	12.0	B	13.5	B
			PM	9.5	A	10.3	B	10.0	B	11.0	B
2. Gerard Avenue / Campus Parkway	Signalized	D	AM	13.5	B	13.7	B	15.0	B	15.3	B
			PM	13.1	B	13.8	B	13.8	B	14.2	B
3. Mission Avenue / SR 99 SB Off-Ramp	Signalized	--[1]	AM	19.1	B	21.1	C	21.7	C	22.4	C
			PM	18.4	B	18.5	B	20.4	C	20.6	C
4. Mission Avenue / SR 99 NB Off-Ramp	Signalized	--[1]	AM	19.5	B	21.4	C	36.6	D	49.4	D
			PM	19.7	B	21.1	C	35.5	D	49.5	D
5. Campus Parkway / Pluim Drive (With Project Only)	Signalized	D	AM			25.4	C			26.5	C
			PM			26.1	C			26.2	C
6. Mission Avenue / Pluim Drive (With Project Only)	One-Way Stop Sign	D	AM			9.1	A			9.3	A
			PM			9.3	A			9.5	S

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For signalized intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.

1 - With the changes brought about by SB 743, Caltrans no longer uses level of service to determine the need for transportation improvements. Instead, the focus is on providing adequate facilities for pedestrians, bicycles, and transit as well as safety considerations for all transportation modes. Guidance is provided in the Transportation Impact Study Guide dated May 20, 2020 and the Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance dated July 2020. This guidance was used in determining the need for roadway improvements on Caltrans facilities.

ROADWAY IMPROVEMENTS

As discussed in Section 3.0 (Impacts), roadway improvements may be desirable to support the development of the Project, as well as to accommodate traffic increases related to overall growth in the study area.

Considering the results presented in Section 3.0, the following improvements may be implemented to accommodate traffic increases related to overall growth in the study area.

Recommended Improvements

Intersections

✓ **<u>Mission Avenue at SR 99 NB Off-Ramp</u>**
Recommended improvements:

- Horizon Year 2046 Without Project and Horizon Year 2046 Plus Project Conditions
  - Lengthen the northbound right storage pocket from 425 feet to 575 feet.

The recommended storage pocket lengths considering the Horizon Year 2046 Plus Project scenario is presented in Table E-2.

Table E-2
Left Turn and Right Turn Storage Requirements

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		HORIZON YEAR 2046 RECOMMENDED QUEUE STORAGE LENGTH (ft)
2. Gerard Avenue / Campus Parkway	NB Left	2 @ 150	2 @ 150
	NB Right	275	275
	SB Left	2 @ 200	2 @ 200
	SB Right	200	200
	EB Left	2 @ 125	2 @ 125
	EB Right	125	125
	WB Left	2 @ 175	2 @ 175
	WB Right	125	125
3. Mission Avenue / SR 99 SB Off-Ramp	SB Left-Thru	950	950
	SB Right	950	950
4. Mission Avenue / SR 99 NB Off-Ramp	NB Left-Thru	425	425
	NB Right	425	**575**
	EB Left	325	325
	WB Right	450	450
5. Campus Parkway / Pluim Drive (With Project Only)	NB Left	--	150
	NB Right	--	150
	SB Left	--	150
	SB Right	--	150
	EB Left	--	150
	EB Right	--	150
	WB Left	--	150
	WB Right	--	150

BOLD denotes change in queue storage length

Equitable Share Responsibility

The Project may be required to contribute a fair share of the costs of improvements that are identified for the Horizon Year 2046 scenario. The intent of determining the equitable responsibility for the improvements identified above for the Horizon Year 2046 scenario is to provide a starting point for early discussions between the applicant and the City of Merced/Caltrans to address improvement equitability and to calculate the equitable share for mitigating impacts. The formula used to calculate the equitable share responsibility is as follows:

Equitable Share = (Project Trips)/(Horizon Year 2046 Plus Project Traffic – Existing Traffic)

Table E-3 shows the Project's equitable fair share responsibility on a percentage basis for improvements as described above.

Table E-3
Horizon Year 2046 Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	HORIZON YEAR 2046 PLUS PROJECT	FAIR SHARE PERCENTAGE
4. Mission Avenue at SR 99 NB Off-Ramp[1]	AM	218	28	583	7.7%
	PM	232	58	678	13.0%

1: Northbound right-turn volumes only

VEHICLE MILES TRAVELED (VMT) ANALYSIS

Vehicle miles traveled (VMT) analysis was conducted according to the Merced County Association of Governments (MCAG) VMT Thresholds and Implementation Guidelines (MCAG/LSA 2022). For mixed-use projects, the guidelines recommend analyzing each land use individually while taking credit for internal trip capture. Using this methodology, it was concluded that each component of the project and the project as a whole has a less than significant VMT impact and no mitigation measures are needed.

1.0 Introduction

1.1 Description of the Region/Project

This Transportation Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed Merced Gateway Residential and Commercial Development (Project) in the City of Merced. The Project proposes to develop 587 dwelling units and 8.9 acres of local commercial development on a total of 53.8 acres of land. The Project is located at the northeast and southeast corners of Campus Parkway and Pluim Drive and is generally bounded by Gerard Avenue to the north and Mission Avenue to the South. Figures 1-1 and 1-2 show the location of the Project along with major roadways in the Project area. The Project site plan is provided in Figure 1-3.

1.1.1 *Project Access*

Site access will be provided at driveways along Gerard Avenue, Pluim Drive, and Mission Avenue. The Project site plan (Figure 1-3) shows the approximate locations of the proposed access points.

1.1.2 *Study Area*

The following intersections included in this TIS were determined in consultation with City of Merced staff and include:

Intersections

1. Gerard Avenue and Pluim Drive
2. Gerard Avenue and Campus Parkway
3. Mission Avenue and State Route (SR) 99 SB Off Ramp
4. Mission Avenue and SR 99 NB Off Ramp
5. Campus Parkway and Pluim Drive (With Project Scenario Only)
6. Mission Avenue and Pluim Drive (With Project Scenario Only)

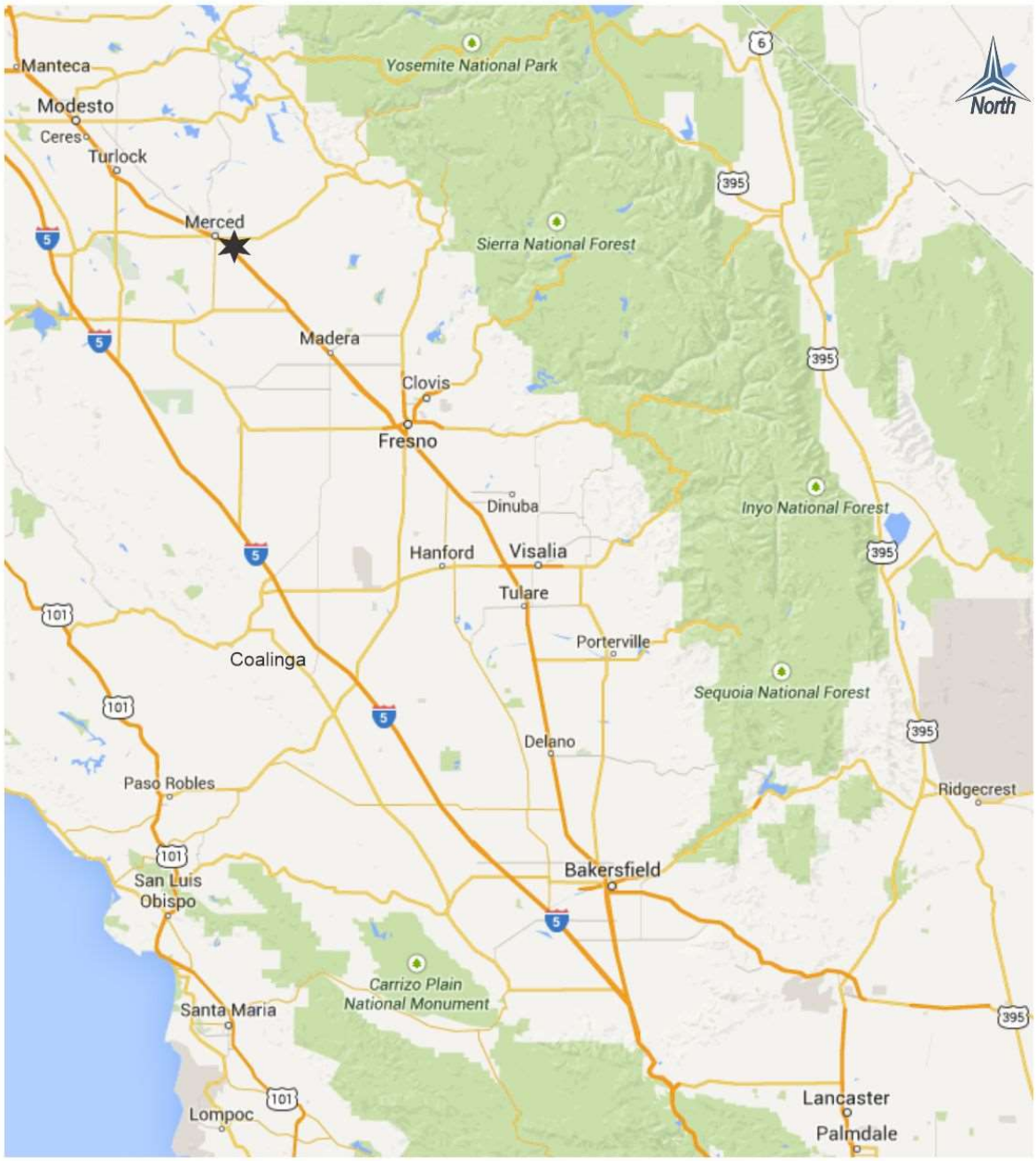
1.1.3 *Study Scenarios*

This TIS includes level of service (LOS) analysis for the following traffic scenarios (Study Scenarios):

- ✓ Existing Conditions
- ✓ Opening Year (2025) Plus Project Conditions
- ✓ Horizon Year 2046 Without Project Conditions
- ✓ Horizon Year 2046 Plus Project Conditions

Merced Gateway Residential/Commercial Development
Regional Location

Figure 1-1

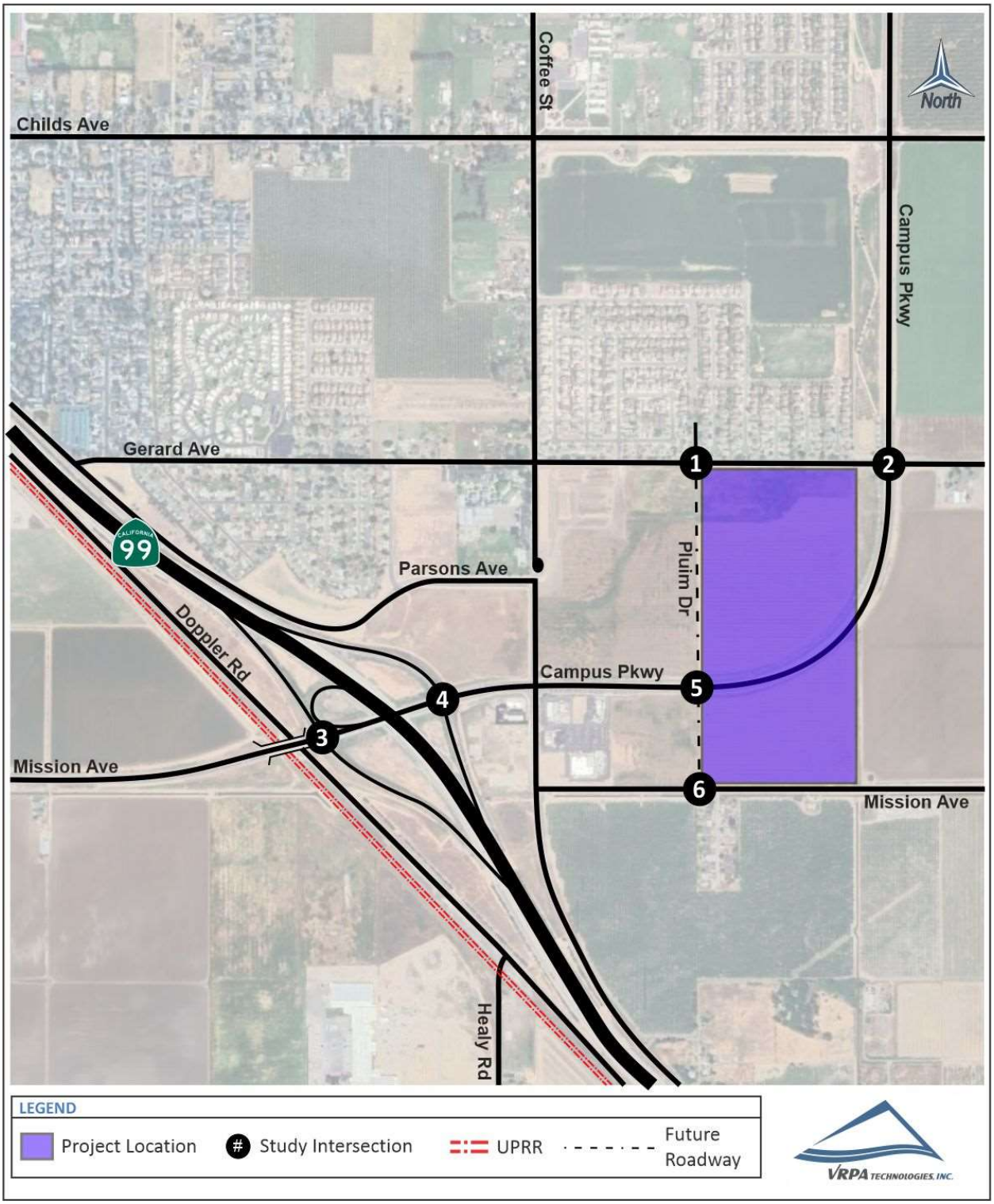


LEGEND

★ Project Location

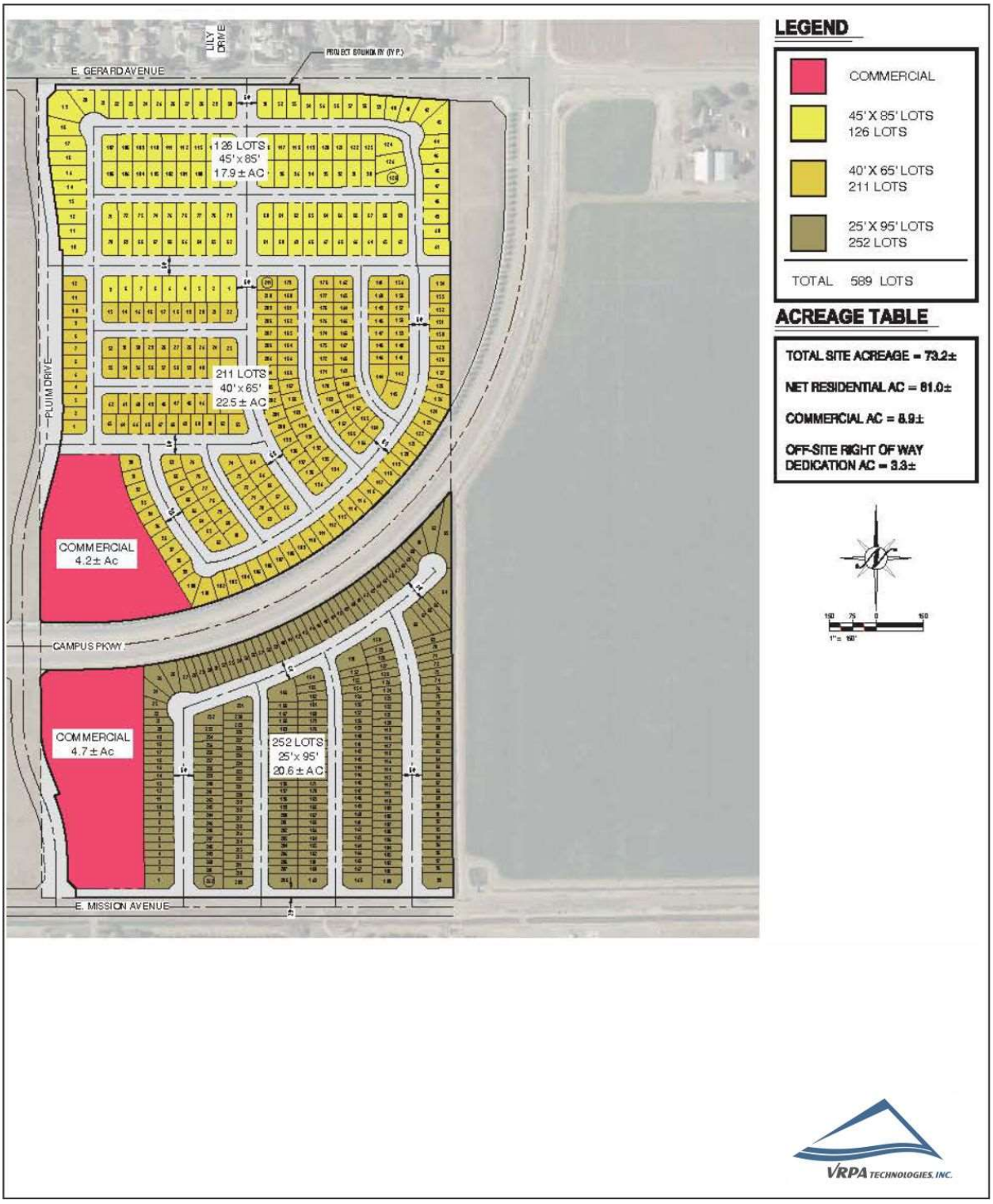
Merced Gateway Residential/Commercial Development
Project Location

Figure 1-2



Merced Gateway Residential/Commercial Development
Project Site Plan

Figure 1-3



1.2 Methodology

When preparing this TIS, guidelines set by the City of Merced were followed. In analyzing street and intersection capacities, LOS methodologies from the latest edition of the Highway Capacity Manual (HCM) were applied. The City of Merced LOS standards were applied to quantitatively assess the performance of study area intersections and roadway segments. In addition, safety concerns were considered when determining the need for appropriate mitigation resulting from increased traffic near sensitive uses.

1.2.1 *Intersection Analysis*

Intersection LOS analysis was conducted using the Synchro 11 software program. Synchro 11 supports HCM 6th Edition methodologies and is an acceptable program by City of Merced staff for assessment of traffic impacts. Levels of Service can be determined for both signalized and unsignalized intersections. Three of the existing study intersections are currently signalized (Gerard Avenue at Campus Parkway, Mission Avenue at SR 99 SB Off Ramp and Mission Avenue at SR 99 NB Off Ramp) while one existing intersection is currently unsignalized (Gerard Avenue at Pluim Drive – One-Way Stop).

Tables 1-1 and 1-2 indicate the ranges in the amounts of average delay for a vehicle at signalized and unsignalized intersections for the various levels of service ranging from LOS “A” to “F”.

When an unsignalized intersection does not meet acceptable LOS standards, the investigation of the need for a traffic signal shall be evaluated. The California Manual on Uniform Traffic Control Devices for Streets and Highways (California MUTCD) introduces standards for determining the need for traffic signals. The California MUTCD indicates that the satisfaction of one or more traffic signal warrants does not in itself require the installation of a traffic signal. In addition to the warrant analysis, an engineering study of the current or expected traffic conditions should be conducted to determine whether the installation of a traffic signal is justified.

1.2.2 *Queuing Analysis*

Queuing analysis was performed at study intersections utilizing the Synchro 12 software program. This software aligns with the methodologies outlined in the Highway Capacity Manual (HCM) 6th Edition. Synchro provides queuing results in feet for signalized intersections while the 95th percentile queue for unsignalized intersections are expressed in number of vehicles.

1.3 Policies to Maintain Level of Service

An important goal is to maintain an acceptable level of service along the highway, street, and road network. To accomplish this, the City of Merced, Merced County, and Caltrans adopt minimum levels of service in an attempt to control congestion that may result as new

development occurs.

The City of Merced considers levels of service 'D' or better to be acceptable, while levels of service 'E' and 'F' are considered unacceptable. At unsignalized intersections where a substandard level of service exists, traffic signals would only be recommended if warrants for traffic signals are satisfied. The satisfaction of a traffic signal warrant doesn't, in and of itself, require the installation of a traffic signal. Safety and/or the overall operation of the intersection should be the basis of the installation of a traffic signal. Other improvements, such as the installation of dedicated left/right turning movements, should also be considered for the purpose of alleviating substandard levels of service at an intersection.

The 2030 Merced County General Plan establishes measures of performance for the county roadway systems. The General Plan identifies LOS 'D' during weekday peak hours in urban area and for rural connectors between urban areas (including freeways) and LOS 'C' for other rural roadways.

With the changes brought about by SB 743, Caltrans no longer uses level of service to determine the need for transportation improvements. Instead, the focus is on providing adequate facilities for pedestrians, bicycles, and transit as well as safety considerations for all transportation modes. Guidance is provided in the Transportation Impact Study Guide dated May 20, 2020, and the Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance dated July 2020. This guidance was used in determining the need for roadway improvements on Caltrans facilities.

Table 1-1
Signalized Intersections Level of Service Definitions (Highway Capacity Manual)

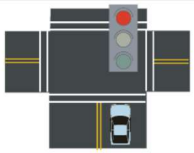
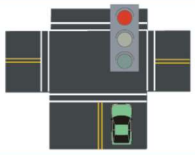
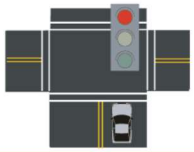
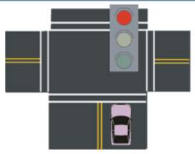
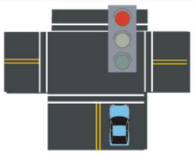
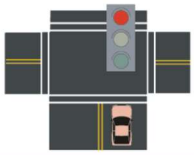
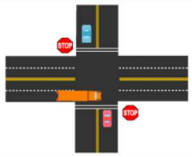
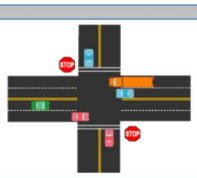
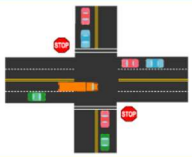
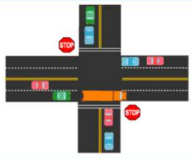
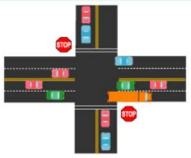
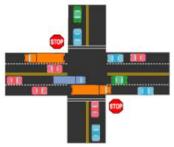
LEVEL OF SERVICE	DEFINITION		AVERAGE TOTAL DELAY (sec/veh)
A	Describes operations with very low delay. This level of service occurs when there is no conflicting traffic for a minor street.		≤ 10.0
B	Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay.		> 10.0 - 20.0
C	Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues begin to get longer.		> 20.0 - 35.0
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps on the mainline and an increase of minor street traffic. The queues of vehicles are increasing.		> 35.0 - 55.0
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor gaps for the minor street to cross and large queues.		> 55.0 - 80.0
F	Describes operations that are at the failure point. This level, considered to be unacceptable to most drivers, often occurs with over- saturation, that is, when arrival flow rates exceed the capacity of the intersection. Insufficient gaps of suitable size exist to allow minor traffic to cross the intersection safely.		> 80.0

Table 1-2
Unsignalized Intersections Level of Service Definitions (Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	No delay for stop-controlled approaches. 	0 - 10.0
B	Describes operations with minor delay. 	> 10.0 - 15.0
C	Describes operations with moderate delays. 	> 15.0 - 25.0
D	Describes operations with some delays. 	> 25.0 - 35.0
E	Describes operations with high delays and long queues. 	> 35.0 - 50.0
F	Describes operations with extreme congestion, with very high delays and long queues unacceptable to most drivers. 	> 50.0

2.0 Existing Conditions

2.1 Existing Traffic Counts and Roadway Geometrics

The first step toward assessing Project traffic impacts is to assess existing traffic conditions. Existing AM and PM peak hour turning movements were collected at each study intersection by National Data and Surveying Services. Intersection turning movement counts were conducted for the peak hour periods of 7:00-9:00 AM and 4:00-6:00 PM for study intersections on Tuesday, August 20, 2024. Traffic count data worksheets are provided in Appendix A. The day on which counts were taken is representative of typical traffic volumes within the study area. Schools were in session and the weather was mild.

2.2 Existing Functional Roadway Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads.

The current hierarchical system of roadways within the study area consists of the following four (4) basic classifications:

- ✓ **State Freeways and Highways** – Freeways and highways provide for high volume, high speed, and interregional travel with limited local access via widely spaced interchanges (1-mile minimum). Freeway access is limited to designated interchanges; no direct access to adjacent land uses is permitted for any use.

- ✓ **Arterials** – Arterials are intended to: (a) provide a high level of capacity in selected high volume corridors; (b) provide connections between the freeway system and arterials and collector streets via interchanges; and (c) provide access to major traffic generators. Arterials are moderate-speed through streets with average daily traffic over 10,000 vehicles per day. Access to an arterial should be primarily accomplished through primary collector and secondary collector streets.

- ✓ **Collectors** – Collector streets are intended to transfer traffic from collector and minor streets to an arterial. Average daily traffic on a primary collector will usually average less than 10,000 vehicles per day. Collector streets should provide direct linkages to neighborhood shopping areas. Collector intersections should be staggered to discourage their use as through access ways by-passing arterials.

- ✓ **Local Streets** – Roadways which provide direct access to abutting property and connect with other local roads, collectors, and arterials. Local roads are typically developed as two-lane

undivided roadways. Access to abutting private property and intersecting streets shall be permitted.

2.3 Affected Streets and Highways

Street and highway intersections near and adjacent to the Project site were analyzed to determine levels of service utilizing HCM-based methodologies described previously. The study intersections included in this TIS are listed below.

Intersections

1. Gerard Avenue and Pluim Drive
2. Gerard Avenue and Campus Parkway
3. Mission Avenue and State Route (SR) 99 SB Off Ramp
4. Mission Avenue and SR 99 NB Off Ramp
5. Campus Parkway and Pluim Drive (With Project Scenario Only)
6. Mission Avenue and Pluim Drive (With Project Scenario Only)

The existing lane geometry at study area intersections is shown in Figure 2-1. Three of the existing study intersections are currently signalized (Gerard Avenue at Campus Parkway, Mission Avenue at SR 99 SB Off Ramp and Mission Avenue at SR 99 NB Off Ramp) while one existing intersection is currently unsignalized (Gerard Avenue at Pluim Drive – One-Way Stop). Figures 2-2 and 2-3 show existing traffic volumes for the AM and PM peak hours in the study area.

2.4 Level of Service

2.4.1 *Intersection Capacity Analysis*

All intersection LOS analyses were estimated using Synchro 11 Software. Various roadway geometrics, traffic volumes, and properties (peak hour factors, storage pocket length, etc) were input into the Synchro 11 Software program to accurately determine the travel delay and LOS for each study scenario. The intersection LOS and delays reported represent the HCM 6th Edition outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

✓ **Lane Geometry**
- Storage lengths for turn lanes for existing intersections were obtained from aerial photos and rounded to the nearest 25 feet.
- VRPA conducted a field study of the specified intersections and segments to verify lane geometry and intersection control as well as to obtain other pertinent data.

✓ **Traffic Conditions**
- Peak hour factors (PHF) for each intersection approach were obtained from the traffic counts discussed in Section 2.1 and were utilized for Existing and Opening Year conditions.

For all future scenarios, a PHF of 0.92 was applied unless the existing PHF was greater than 0.92. The value of 0.92 was used because it is the default value recommended in the HCM.

- Heavy vehicle percentages were based on the HCM default value of 3%. Heavy vehicle percentages at the SR 99 Off Ramps were based on Caltrans' 2022 Annual Average Daily Truck Trips.
- Roadway link speed limits were observed in the field and input into the Synchro network to determine roadway link speeds.

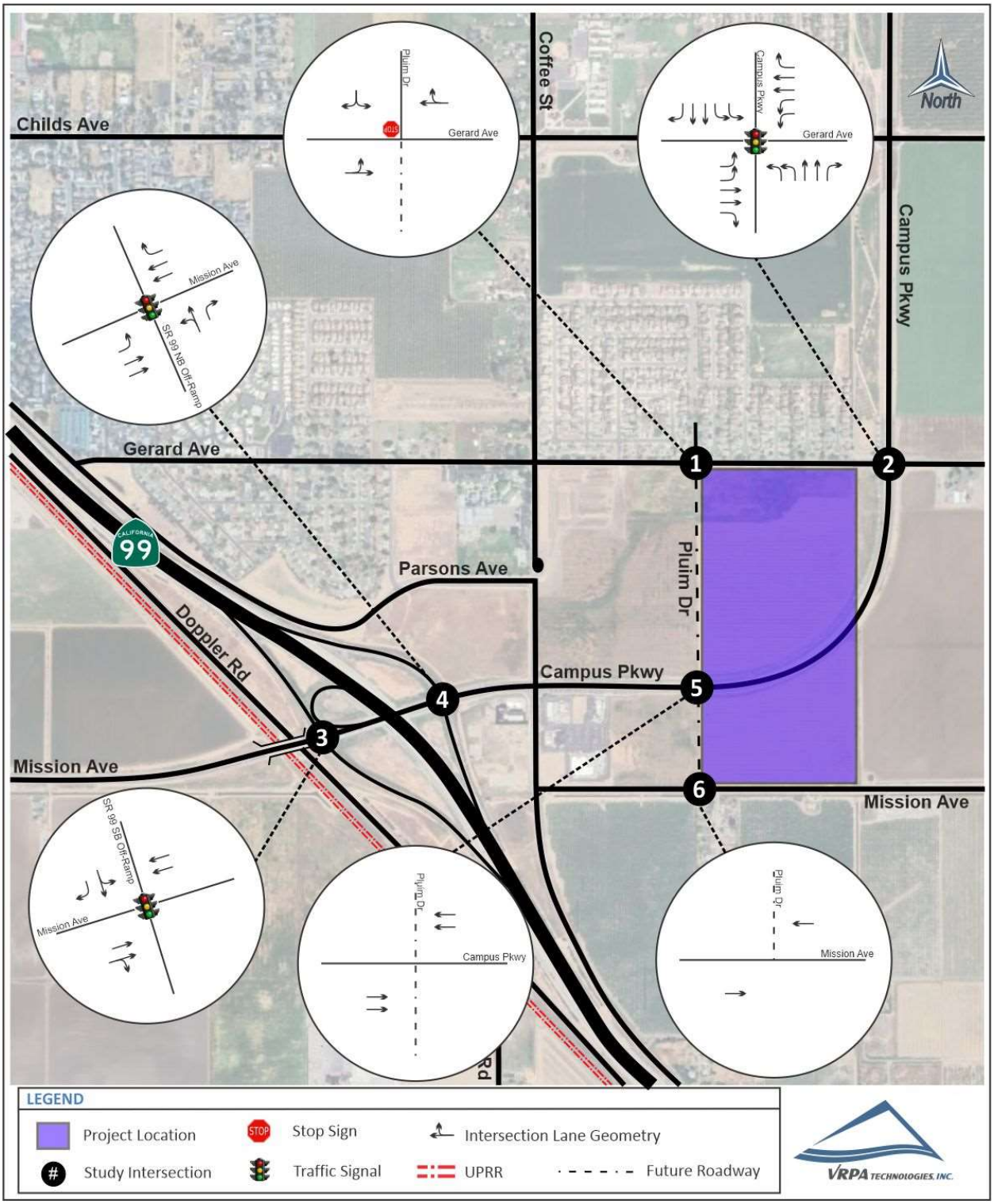
The results of the analysis show that all the study intersections currently operate at acceptable levels of service considering the City of Merced LOS criteria. Table 2-1 shows the intersection LOS for the existing conditions. Synchro 11 (HCM 6th Edition) Worksheets are provided in Appendix B.

2.4.2 *Queuing Analysis*

Table 2-2 provides a queue length summary for left and right turn lane approaches at study intersections. As shown in Table 2-2, existing storage pocket lengths at study intersections adequately support the traffic volumes at existing study intersections. Queuing conditions for left and right-turn lanes at all study intersections are based upon Section 400 of Caltrans' Highway Design Manual.

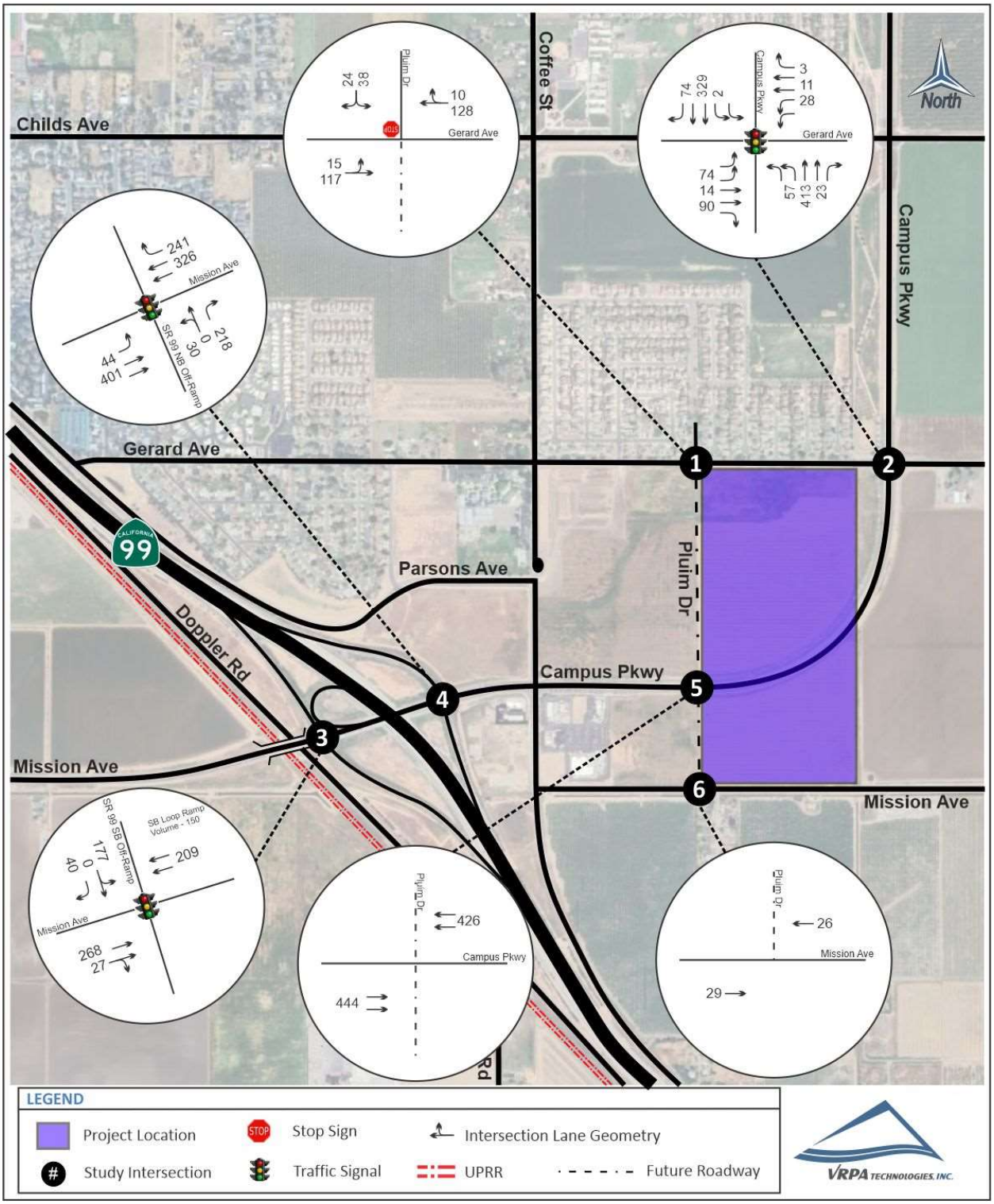
Merced Gateway Residential/Commercial Development
Existing Lane Geometry

Figure 2-1



Merced Gateway Residential/Commercial Development
Existing AM Peak Hour Traffic

Figure 2-2



Merced Gateway Residential/Commercial Development
Existing PM Peak Hour Traffic

Figure 2-3

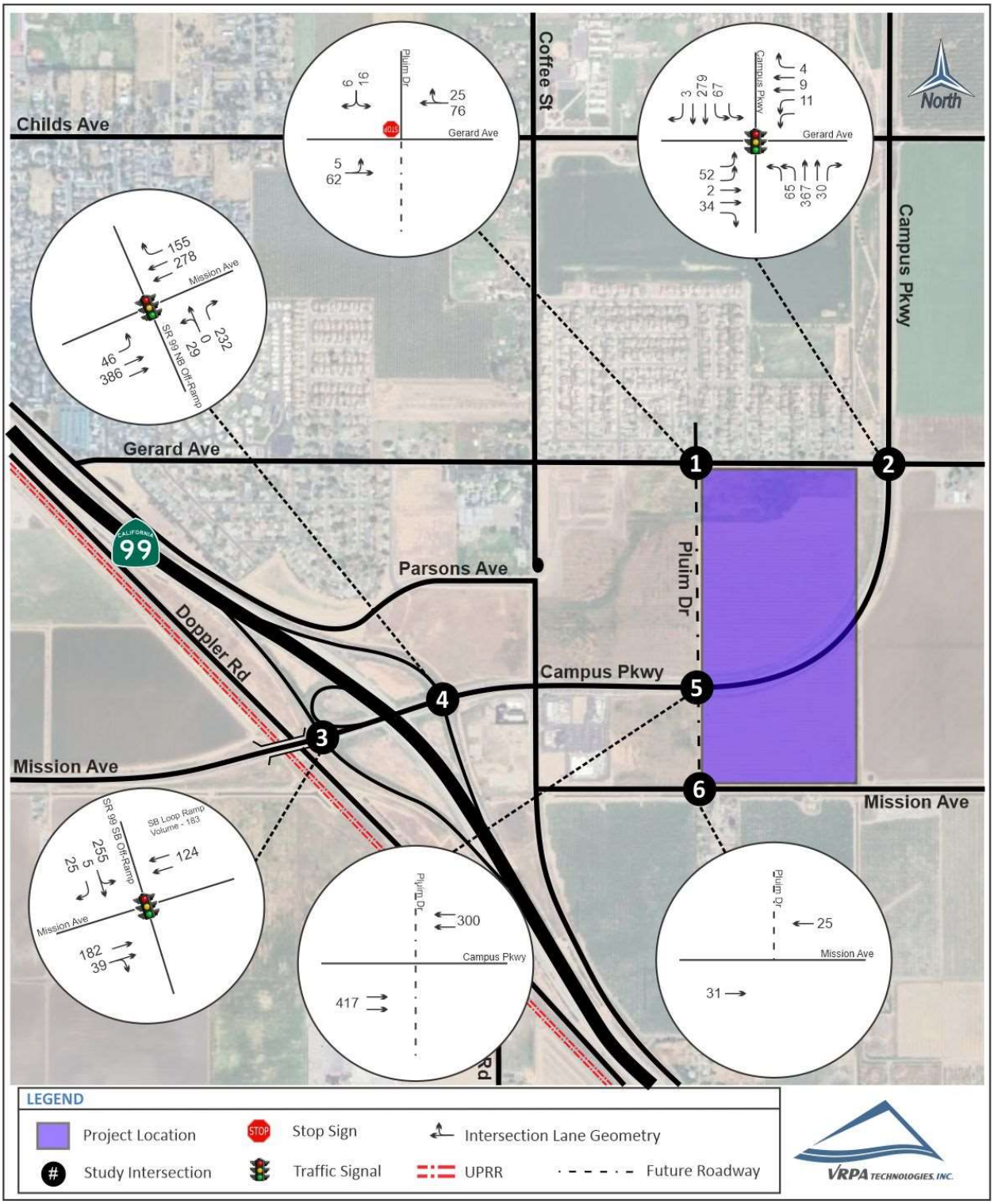


Table 2-1
Existing Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING	
				DELAY	LOS
1. Gerard Avenue / Pluim Drive	One-Way Stop Sign	D	AM	11.5	B
			PM	9.5	A
2. Gerard Avenue / Campus Parkway	Signalized	D	AM	13.5	B
			PM	13.1	B
3. Mission Avenue / SR 99 SB Off-Ramp	Signalized	-- [1]	AM	19.1	B
			PM	18.4	B
4. Mission Avenue / SR 99 NB Off-Ramp	Signalized	-- [1]	AM	19.5	B
			PM	19.7	B

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For signalized intersections, delay results show the average for the entire intersection. For one-way stop controlled intersections, delay results show the delay for the worst movement.

1 - With the changes brought about by SB 743, Caltrans no longer uses level of service to determine the need for transportation improvements. Instead, the focus is on providing adequate facilities for pedestrians, bicycles, and transit as well as safety considerations for all transportation modes. Guidance is provided in the Transportation Impact Study Guide dated May 20, 2020 and the Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance dated July 2020. This guidance was used in determining the need for roadway improvements on Caltrans facilities.

Table 2-2
Existing Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS	
			AM Queue	PM Queue
2. Gerard Avenue / Campus Parkway	NB Left	2 @ 150	48	54
	NB Right	275	19	25
	SB Left	2 @ 200	2	56
	SB Right	200	62	3
	EB Left	2 @ 125	62	43
	EB Right	125	75	28
	WB Left	2 @ 175	23	9
	WB Right	125	3	3
3. Mission Avenue / SR 99 SB Off-Ramp	SB Left-Thru	950	148	217
	SB Right	950	33	21
4. Mission Avenue / SR 99 NB Off-Ramp	NB Left-Thru	425	25	24
	NB Right	425	182	193
	EB Left	325	37	38
	WB Right	450	201	129

Queue is measured in feet / **BOLD** denotes exceedance

3.0 Traffic Impacts

This chapter provides an assessment of traffic and the impact on the surrounding street system.

3.1 Trip Generation

To assess the impacts that the Project may have on the surrounding roadway network, the first step is to determine Project trip generation. Project trip generation was determined using trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) and the ITE Trip Generation Handbook (3rd Edition). The considerations described above led to the recommended trip generation for weekday AM (7:00-9:00am) and PM (4:00-6:00pm) peak hours shown in Table 3-1.

Table 3-1
Project Trip Generation

LAND USE/ ITE LAND USE CODE	QUANTITY	DAILY TRIP ENDS (ADT)		WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Single Family Residential (210)	587 Units	8.75	5,141	0.70	25:75	93	280	373	0.94	63:37	330	195	525
Shopping Plaza (821)	49,550 Sf	67.52	3,346	1.73	62:38	53	33	86	5.19	49:51	126	131	257
Office (710)	49,550 Sf	10.84	630	1.52	88:12	81	11	92	1.44	17:83	16	77	93
			9,117			**227**	**324**	**551**			**472**	**403**	**875**
Internal Vehicle Trips (10%)			**912**			**23**	**32**	**55**			**47**	**40**	**88**
Passby Trips/Retail Only (30%)			**1,004**			**16**	**10**	**26**			**38**	**39**	**77**
TOTAL EXTERNAL TRIP GENERATION			**7,202**			**188**	**282**	**470**			**387**	**323**	**710**

3.2 Trip Distribution

Project trip distribution percentages for the Opening Year and the Horizon Year 2046 scenarios are shown in Figure 3-1. These percentages are based upon knowledge of the study area, engineering judgement, prevailing traffic patterns in the study area, major routes, population centers, and other existing development.

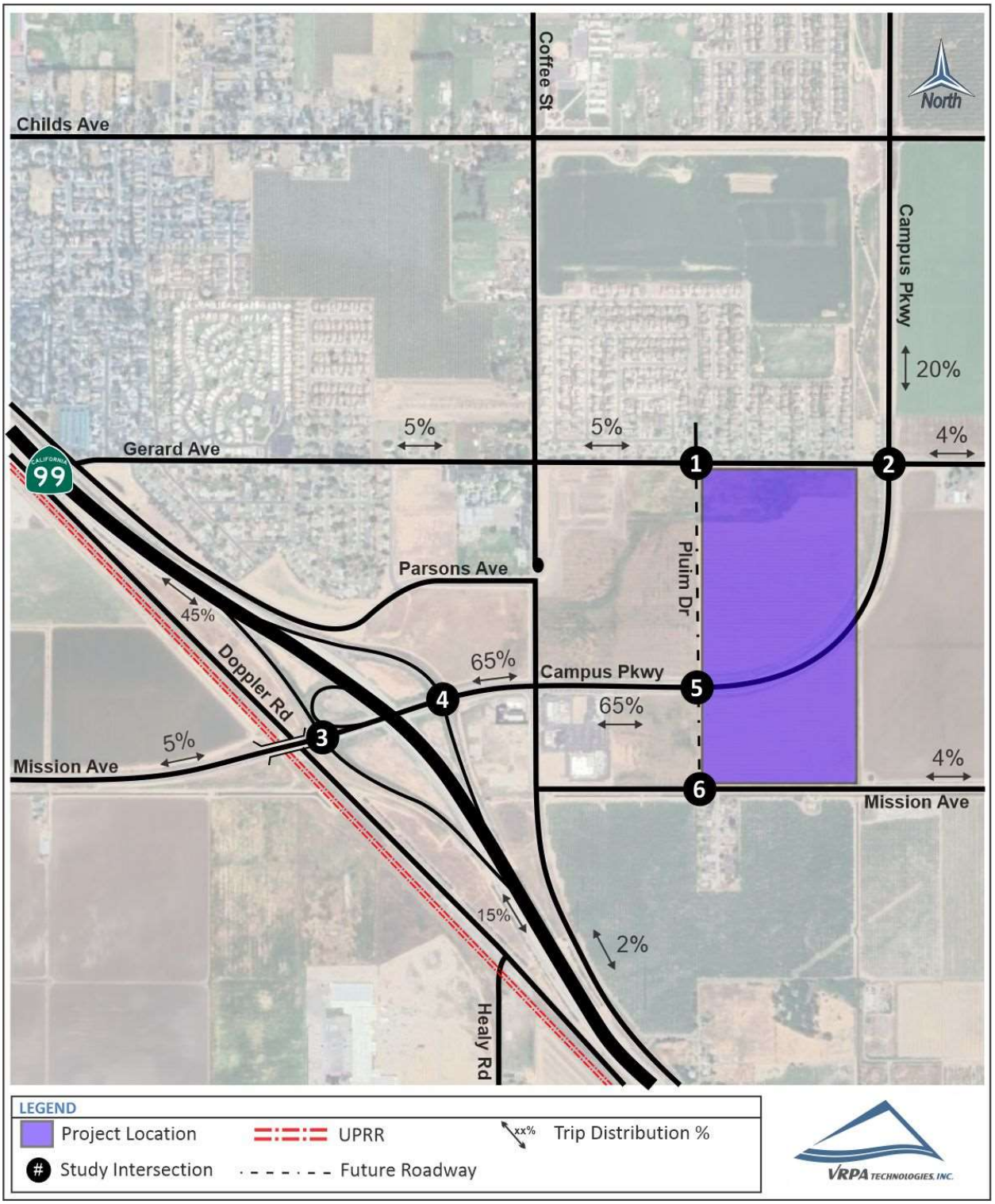
Site access will be provided at driveways along Gerard Avenue, Pluim Drive, and Mission Avenue. The Project site plan (Figure 1-3) shows the approximate locations of the proposed access points.

3.3 Project Traffic

Project traffic as shown in Table 3-1 was distributed to the roadway system using the trip distribution percentages shown in Figure 3-1. The graphical representation of the resulting AM and PM peak hour Project trips used is shown in Figures 3-2 and 3-3.

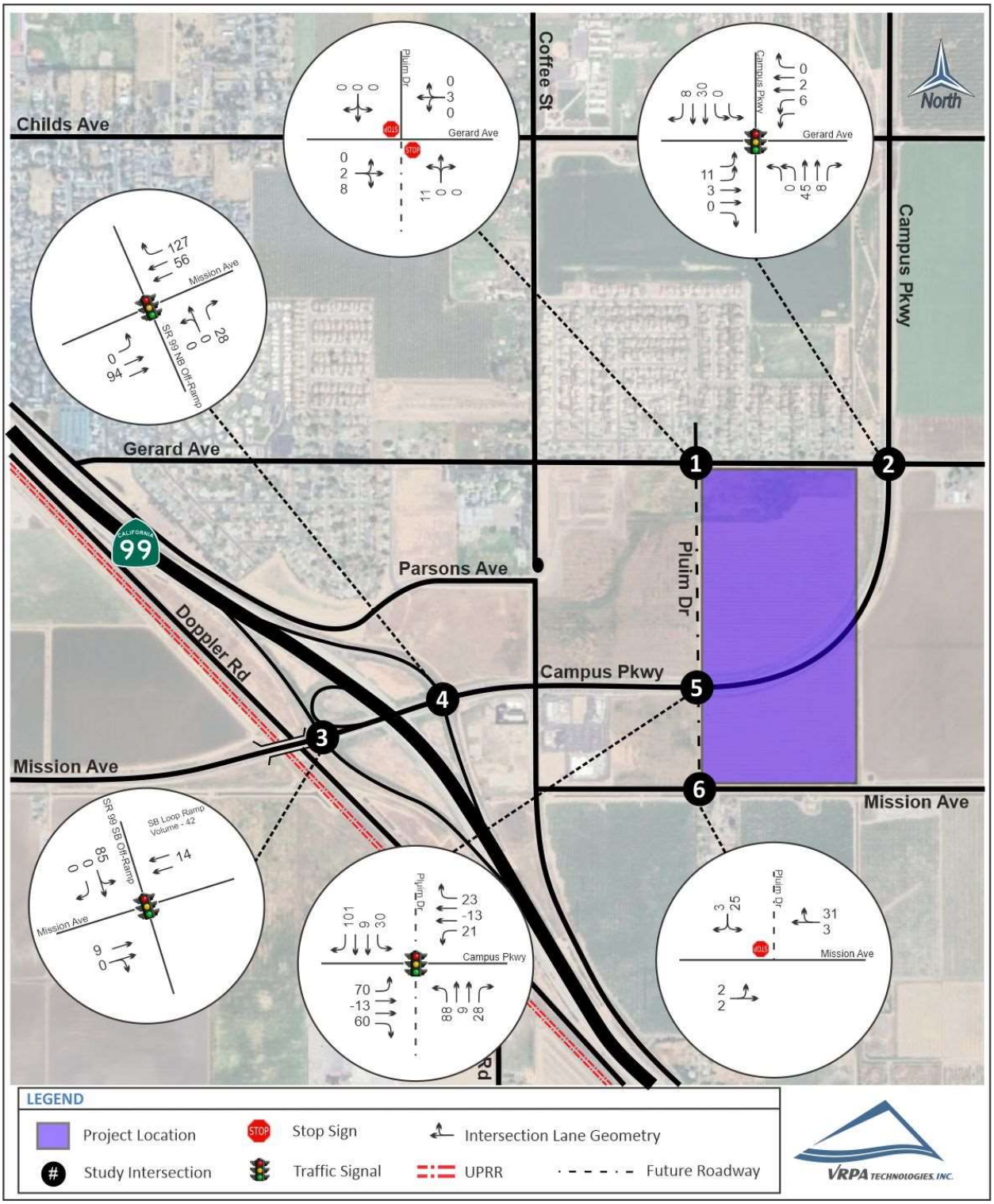
Merced Gateway Residential/Commercial Development
Trip Distribution

Figure 3-1



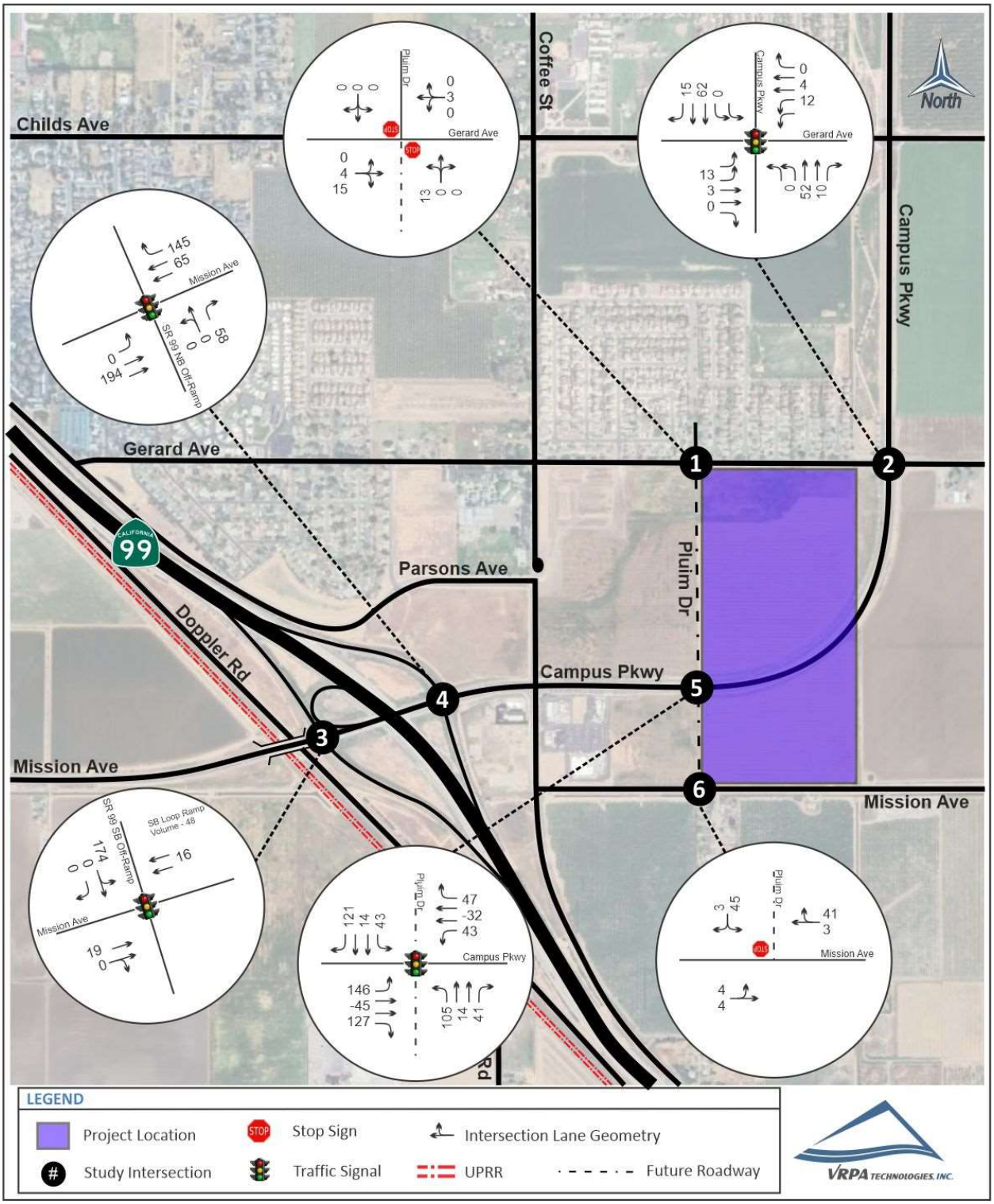
Merced Gateway Residential/Commercial Development
Project AM Peak Hour Traffic

Figure 3-2



Merced Gateway Residential/Commercial Development
Project PM Peak Hour Traffic

Figure 3-3



3.4 Approved/Pending Project Traffic

Traffic impact analyses typically require the analysis of approved or pending developments that have not yet been built in the vicinity of the Project. The UC Merced Long Range Development Plan (LRDP), the University Vista project, the Virginia Smith Charitable Trust (VST) project, and Tentative Subdivision Map #1323 will add new trips to the study intersections being evaluated in this TIS. In addition, trips from various approved/pending projects as detailed in the UC Merced 2020 LRDP Traffic Impact Analysis (Fehr & Peers – August 2019) were also included in the analysis. AM and PM peak hour trips from approved/pending projects were applied to the Opening Year and Horizon Year 2046 scenarios discussed later in the report. It should be noted that trips associated with the UC Merced Long Range Development Plan (LRDP), University Vista project, and Virginia Smith Charitable Trust (VST) project were only applied to the Horizon Year 2046 scenario.

3.5 Opening Year Traffic Conditions

Traffic conditions with the Project in the Year 2025 were estimated by applying a growth rate of 2% per year to the existing traffic volumes which is consistent with the methodology provided in the Traffic Scoping Document prepared for the Project. In addition, AM and PM peak hour trips from approved/pending projects were manually added to study intersections. The resulting traffic for the Opening Year Plus Project scenario is shown in Figures 3-4 and 3-5.

3.6 Horizon Year 2046 Traffic Conditions

Traffic conditions with and without the Project in the Year 2046 (twenty-one years after Opening conditions) were estimated by applying a growth rate of 2% per year to the existing traffic volumes which is consistent with the methodology provided in the Traffic Scoping Document prepared for the Project. In addition, AM and PM peak hour trips from all approved/pending projects were manually added to study intersections. The resulting traffic for the Horizon Year 2046 Without Project scenario is shown in Figures 3-6 and 3-7. Horizon Year 2046 Plus Project traffic conditions are reflected in Figures 3-8 and 3-9.

3.7 Impacts

3.7.1 *Intersection Capacity Analysis*

Table 3-2 provides the intersection level of service analysis for the study intersections considering the study scenarios discussed above. The results of the analysis show that all the study intersections currently operate at acceptable levels of service considering the City of Merced LOS criteria.

3.7.2 *Queuing Analysis*

Table 3-3 provides a queue length summary for left and right turn lane approaches at study intersections. The queue lengths presented in Table 3-3 are based upon Section 400 of Caltrans' Highway Design Manual.

Results of the queuing analysis shows that traffic at the northbound right approach for the Mission Avenue and SR 99 NB Off-Ramp intersection will exceed the existing 425-foot storage pocket during the AM and PM peak hour for the Horizon Year 2046 scenarios. Potential mitigation measures are discussed in Chapter 4 of this report.

3.8 Vehicle Miles Traveled (VMT) Analysis

Vehicle miles traveled (VMT) analysis was conducted according to the Merced County Association of Governments (MCAG) VMT Thresholds and Implementation Guidelines (MCAG/LSA 2022). For mixed-use projects, the guidelines recommend analyzing each land use individually while taking credit for internal trip capture. The VMT analysis for each of the project's three land uses (office, shopping plaza, and single-family residential) is described below:

- ✓ For the office land use, the project site is located in a VMT-efficient area according to the VMT per Employee Screening Map for Merced County. Therefore, the office land use is screened out of further VMT analysis and has a less than significant VMT impact.

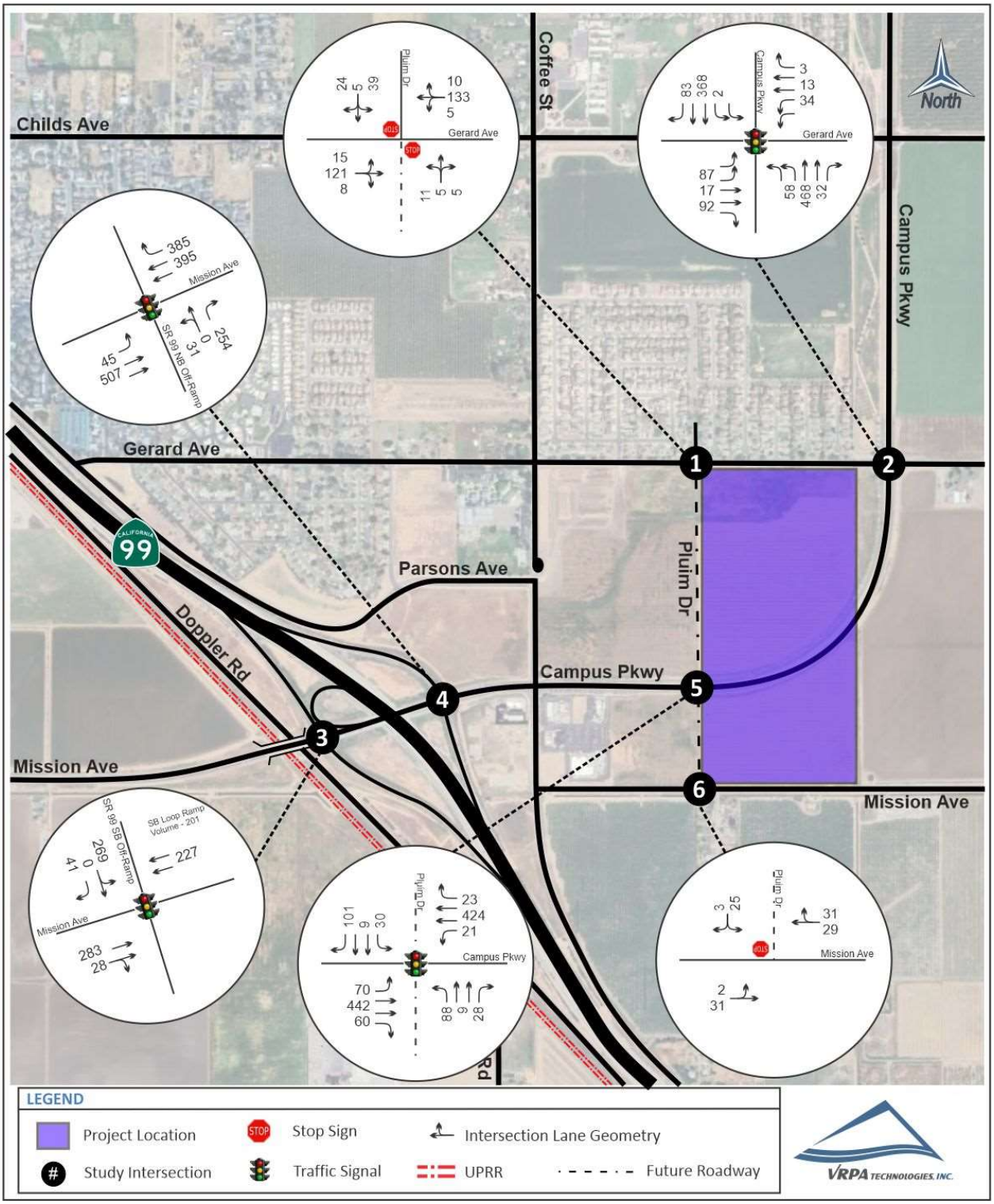
- ✓ The shopping plaza land use is considered to be a retail development that is screened out of further VMT analysis due to lane use type. Therefore, the shopping plaza land use has a less than significant VMT impact.

- ✓ For the single-family residential land use, the project is located in an area that has less than the average VMT per capita but is above the VMT significance threshold of 85% of average VMT/capita or below. However, the project has an internal trip capture of 912 daily trips as compared to 5,141 daily trips generated by the single-family residential land use. After applying credit for internal trip capture, the trip generation of the single-family residential land use would be reduced by 17.7% (921/5,141). Therefore, the resulting VMT per capita for the single-family residential land use is 17.7% or more below average and meets the VMT threshold of at least 15% below average. Therefore, the shopping plaza land use has a less than significant VMT impact.

Since all three components of the project have a less than significant VMT impact, the project as a whole has a less than significant VMT impact and no mitigation measures are needed.

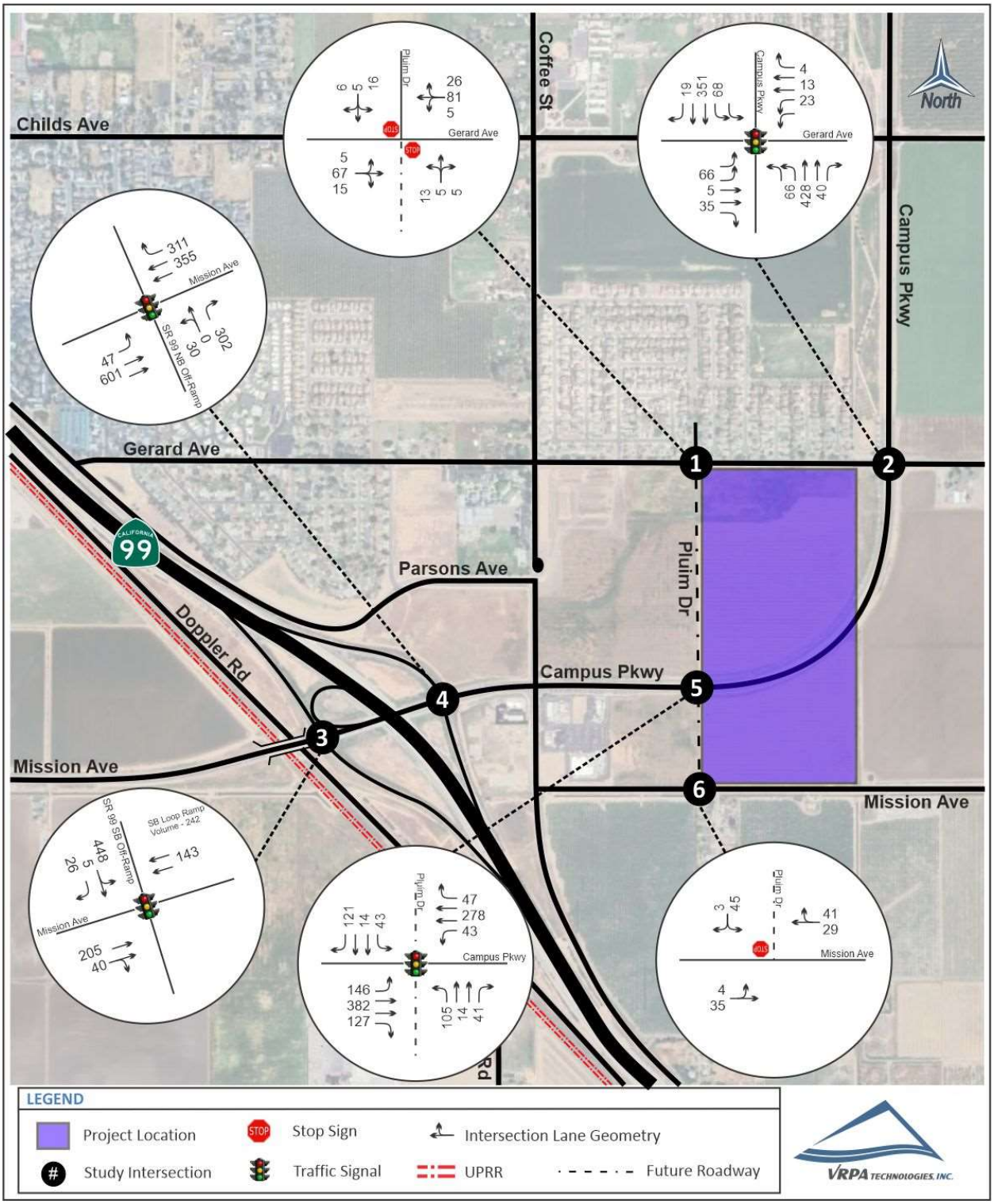
Merced Gateway Residential/Commercial Development
Opening Year 2025 Plus Project AM Peak Hour Traffic

Figure 3-4



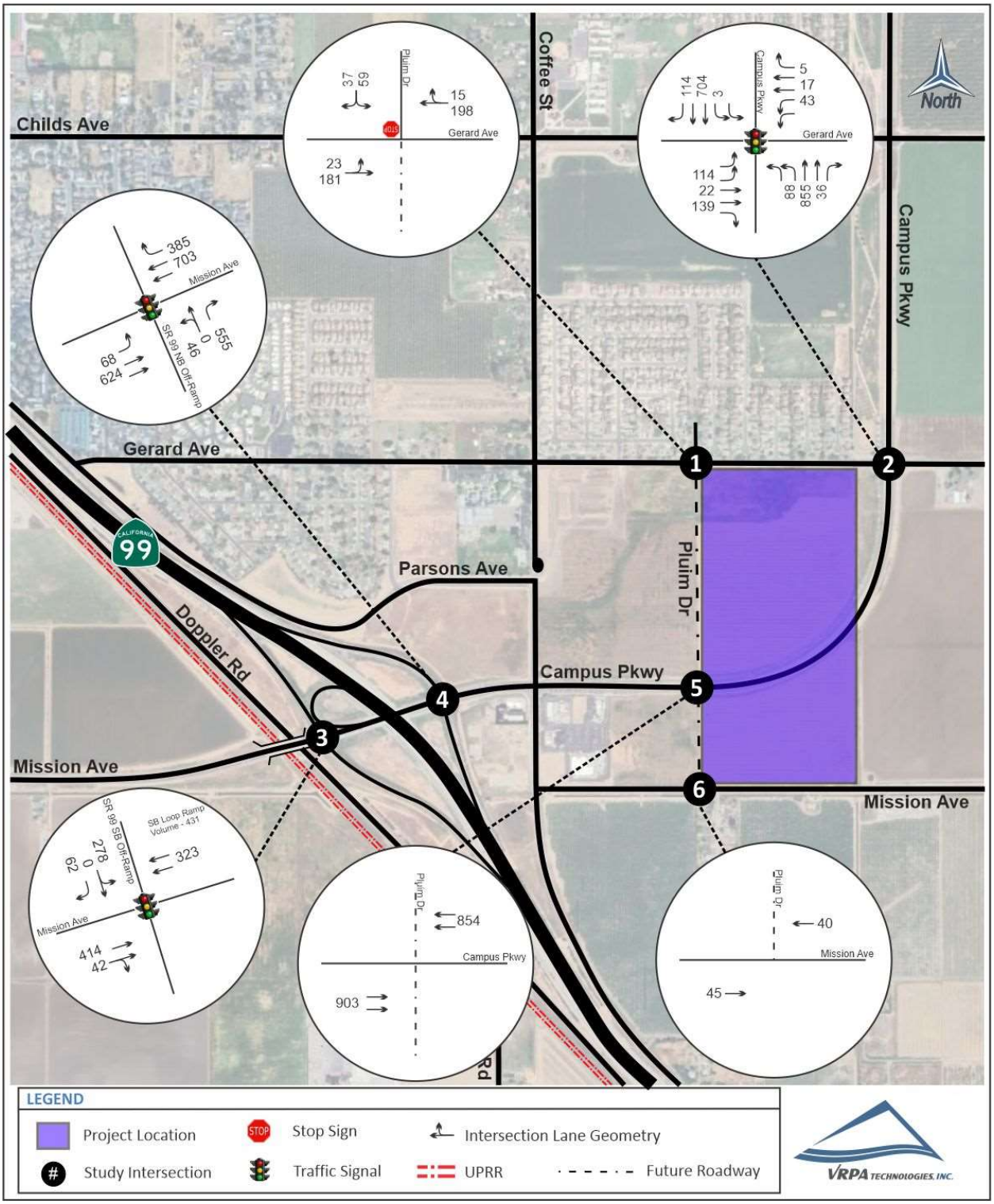
Merced Gateway Residential/Commercial Development
Opening Year 2025 Plus Project PM Peak Hour Traffic

Figure 3-5



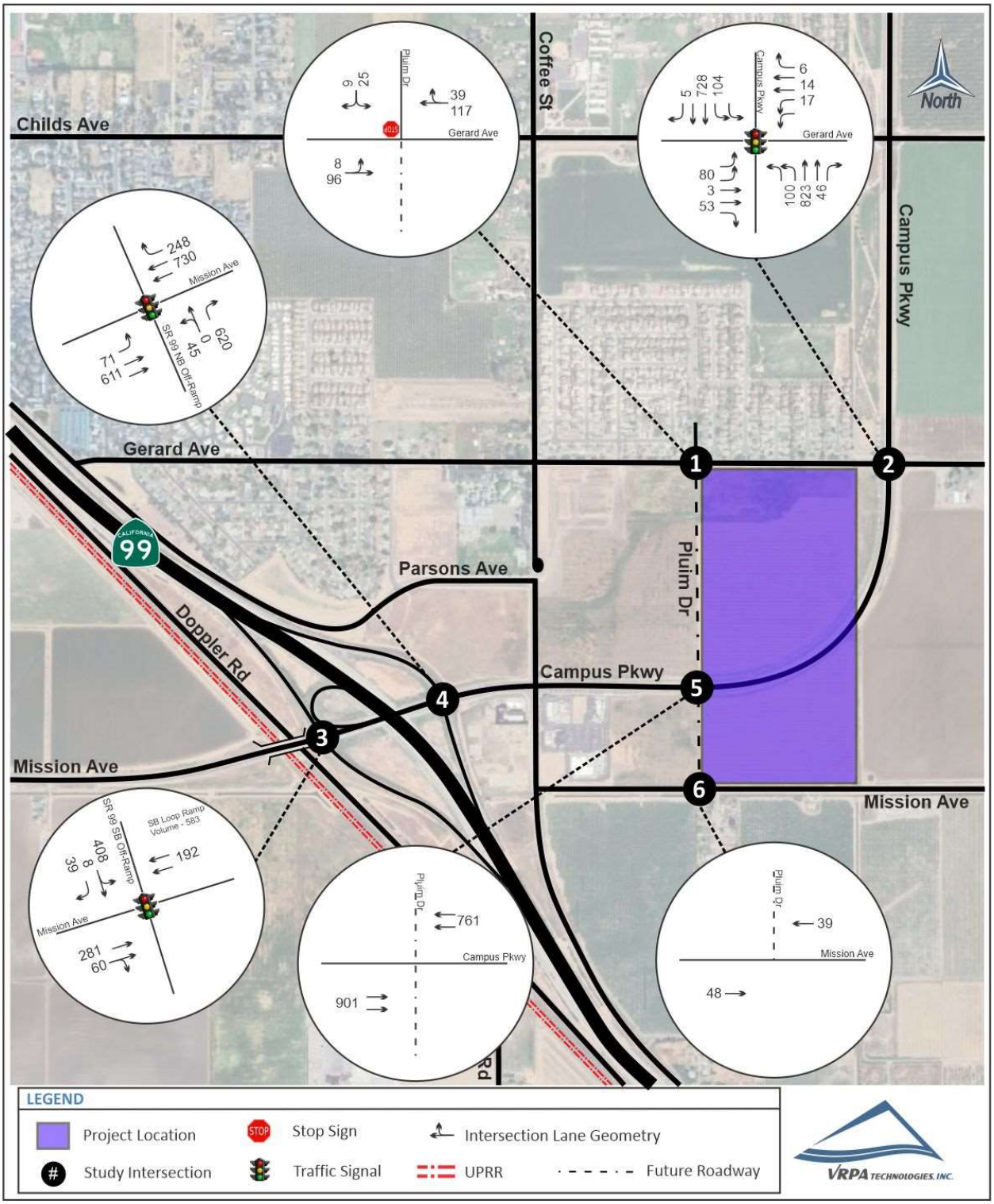
Merced Gateway Residential/Commercial Development
Horizon Year 2046 Without Project AM Peak Hour Traffic

Figure 3-6



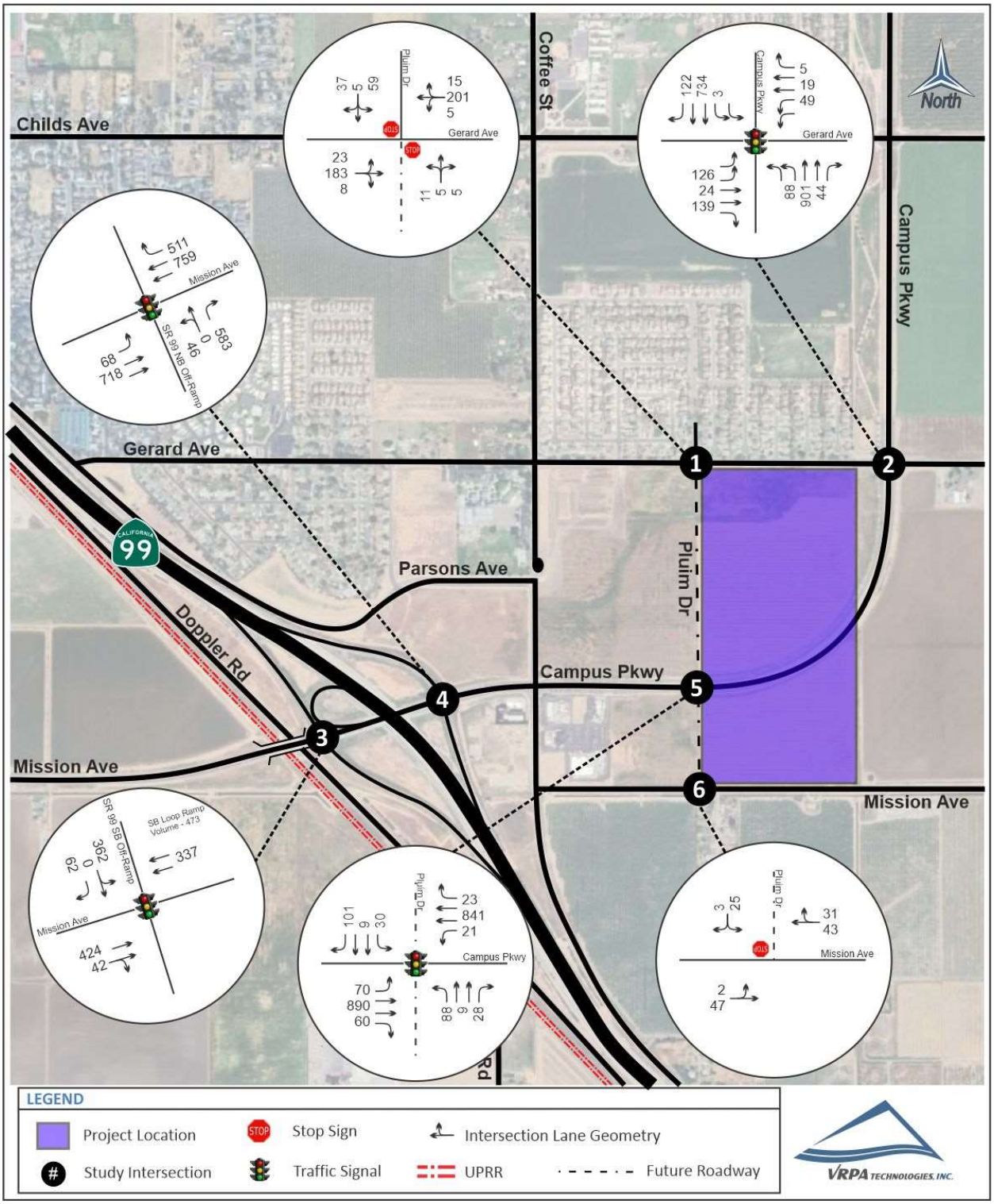
Merced Gateway Residential/Commercial Development
Horizon Year 2046 Without Project PM Peak Hour Traffic

Figure 3-7



Merced Gateway Residential/Commercial Development
Horizon Year 2046 Plus Project AM Peak Hour Traffic

Figure 3-8



Merced Gateway Residential/Commercial Development
Horizon Year 2046 Plus Project PM Peak Hour Traffic

Figure 3-9

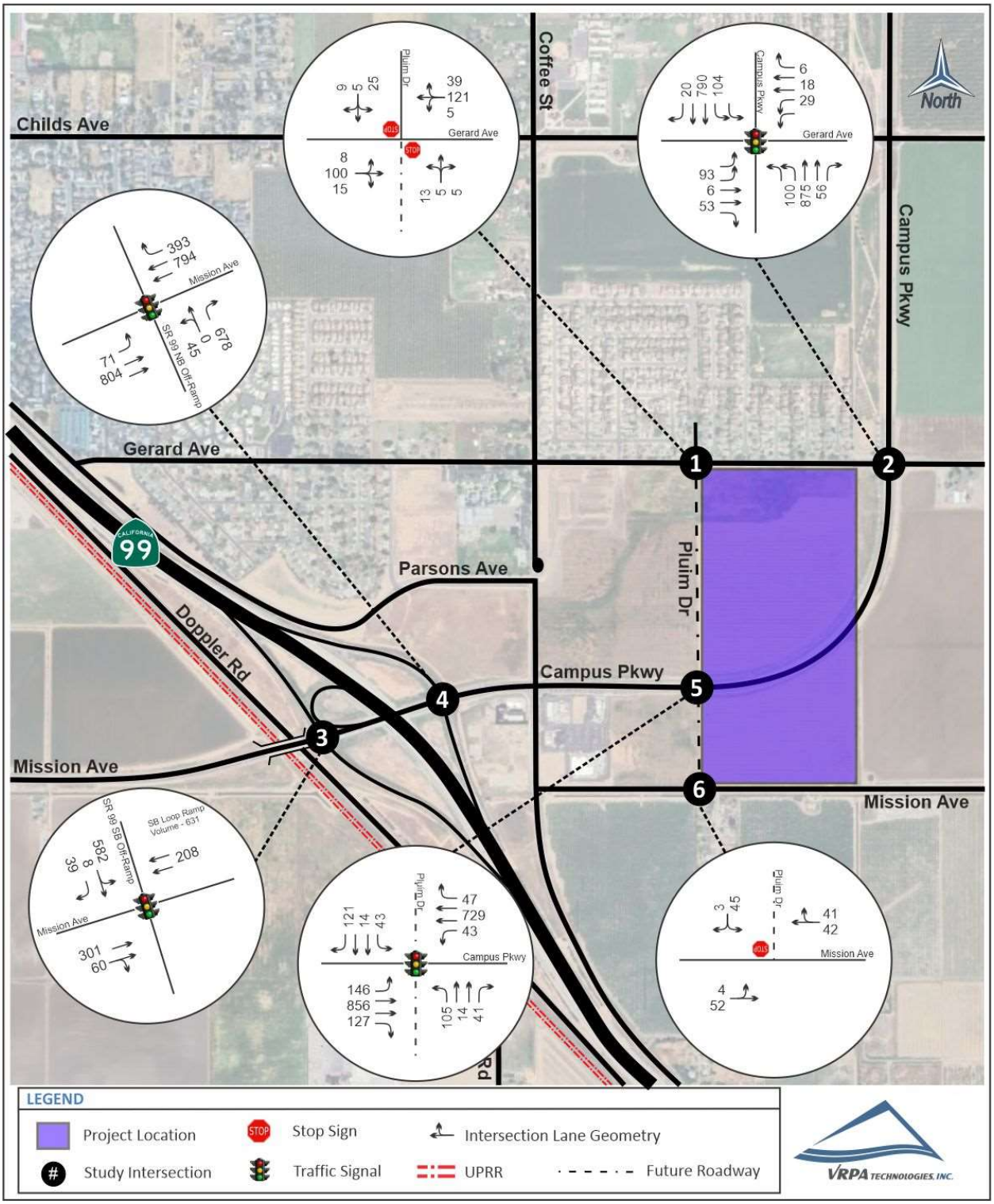


Table 3-2
Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	OPENING YEAR PLUS PROJECT		HORIZON YEAR 2046 WITHOUT PROJECT		HORIZON YEAR 2046 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS
1. Gerard Avenue / Pluim Drive	One-Way Stop Sign (Two-Way Stop w/ Project)	D	AM	13.0	B	12.0	B	13.5	B
			PM	10.3	B	10.0	B	11.0	B
2. Gerard Avenue / Campus Parkway	Signalized	D	AM	13.7	B	15.0	B	15.3	B
			PM	13.8	B	13.8	B	14.2	B
3. Mission Avenue / SR 99 SB Off-Ramp	Signalized	-- [1]	AM	21.1	C	21.7	C	22.4	C
			PM	18.5	B	20.4	C	20.6	C
4. Mission Avenue / SR 99 NB Off-Ramp	Signalized	-- [1]	AM	21.4	C	36.6	D	49.4	D
			PM	21.1	C	35.5	D	49.5	D
5. Campus Parkway / Pluim Drive (With Project Only)	Signalized	D	AM	25.4	C			26.5	C
			PM	26.1	C			26.2	C
6. Mission Avenue / Pluim Drive (With Project Only)	One-Way Stop Sign	D	AM	9.1	A			9.3	A
			PM	9.3	A			9.5	S

DELAY is measured in seconds
LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For signalized intersections, delay results show the average for the entire intersection. For one-way and two-way stop controlled intersections, delay results show the delay for the worst movement.

1 - With the changes brought about by SB 743, Caltrans no longer uses level of service to determine the need for transportation improvements. Instead, the focus is on providing adequate facilities for pedestrians, bicycles, and transit as well as safety considerations for all transportation modes. Guidance is provided in the Transportation Impact Study Guide dated May 20, 2020 and the Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance dated July 2020. This guidance was used in determining the need for roadway improvements on Caltrans facilities.

Table 3-3
Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		OPENING YEAR PLUS PROJECT		HORIZON YEAR 2046 WITHOUT PROJECT		HORIZON YEAR 2046 PLUS PROJECT	
			AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue
2. Gerard Avenue / Campus Parkway	NB Left	2 @ 150	48	55	73	83	73	83
	NB Right	275	27	33	30	38	37	47
	SB Left	2 @ 200	2	57	3	87	3	87
	SB Right	200	69	16	95	4	102	17
	EB Left	2 @ 125	73	55	95	67	105	78
	EB Right	125	77	29	116	44	116	44
	WB Left	2 @ 175	28	19	36	14	41	24
	WB Right	125	3	3	4	5	4	5
3. Mission Avenue / SR 99 SB Off-Ramp	SB Left-Thru	950	224	378	232	347	302	492
	SB Right	950	34	22	52	33	52	33
4. Mission Avenue / SR 99 NB Off-Ramp	NB Left-Thru	425	26	25	38	38	38	38
	NB Right	425	212	252	**463**	**517**	**486**	**565**
	EB Left	325	38	39	57	59	57	59
	WB Right	450	321	259	321	207	426	328
5. Campus Parkway / Pluim Drive (With Project Only)	NB Left	--	73	88			73	88
	NB Right	--	23	34			23	34
	SB Left	--	25	36			25	36
	SB Right	--	84	101			84	101
	EB Left	--	58	122			58	122
	EB Right	--	50	106			50	106
	WB Left	--	18	36			18	36
	WB Right	--	19	39			19	39

Queue is measured in feet / **BOLD** denotes exceedance

4.0 Roadway Improvements

4.1 Roadway Improvements

As discussed in Section 3.0 (Impacts), roadway improvements may be desirable to support the development of the Project, as well as to accommodate traffic increases related to overall growth in the study area.

Considering the results presented in Section 3.0, the following improvements may be implemented to accommodate traffic increases related to overall growth in the study area.

INTERSECTIONS

- ✓ **Mission Avenue at SR 99 NB Off-Ramp**
  Recommended improvements:
  - Horizon Year 2046 Without Project and Horizon Year 2046 Plus Project Conditions
    - Lengthen the northbound right storage pocket from 425 feet to 575 feet.

The recommended storage pocket lengths considering the Horizon Year 2046 Plus Project scenario is presented in Table 4-1.

It is recommended that the applicant's team work with the City of Merced and Caltrans to determine whether any of the improvements described above would be appropriate for implementation as a condition of the Project or would be justification for the payment of fair share fees.

4.2 Equitable Share Responsibility

The Project may be required to contribute a fair share of the costs of improvements that are identified for the Horizon Year 2046 scenario. The intent of determining the equitable responsibility for the improvements identified above for the Horizon Year 2046 scenario is to provide a starting point for early discussions between the applicant and the City of Merced/Caltrans to address improvement equitability and to calculate the equitable share for mitigating impacts. The formula used to calculate the equitable share responsibility is as follows:

Equitable Share = (Project Trips)/(Horizon Year 2046 Plus Project Traffic – Existing Traffic)

Table 4-2 shows the Project's equitable fair share responsibility on a percentage basis for improvements as described above.

Table 4-1
Left Turn and Right Turn Storage Requirements

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		HORIZON YEAR 2046 RECOMMENDED QUEUE STORAGE LENGTH (ft)
2. Gerard Avenue / Campus Parkway	NB Left	2 @ 150	2 @ 150
	NB Right	275	275
	SB Left	2 @ 200	2 @ 200
	SB Right	200	200
	EB Left	2 @ 125	2 @ 125
	EB Right	125	125
	WB Left	2 @ 175	2 @ 175
	WB Right	125	125
3. Mission Avenue / SR 99 SB Off-Ramp	SB Left-Thru	950	950
	SB Right	950	950
4. Mission Avenue / SR 99 NB Off-Ramp	NB Left-Thru	425	425
	NB Right	425	**575**
	EB Left	325	325
	WB Right	450	450
5. Campus Parkway / Pluim Drive (With Project Only)	NB Left	--	150
	NB Right	--	150
	SB Left	--	150
	SB Right	--	150
	EB Left	--	150
	EB Right	--	150
	WB Left	--	150
	WB Right	--	150

BOLD denotes change in queue storage length

Table 4-2
Horizon Year 2046 Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	HORIZON YEAR 2046 PLUS PROJECT	FAIR SHARE PERCENTAGE
4. Mission Avenue at SR 99 NB Off-Ramp[1]	AM	218	28	583	7.7%
	PM	232	58	678	13.0%

1: Northbound right-turn volumes only

Merced Gateway Residential/Commercial Development

Transportation Impact Study Appendices
January 2025

Prepared by:
VRPA Technologies, Inc.
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Fresno, CA 93722

Appendix A – Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pluim Dr & E Gerard Ave
City: Merced
Control: 1-Way Stop(SB)

Project ID: 24-090093-001
Date: 8/20/2024

Data - Totals

NS/EW Streets:	Pluim Dr				Pluim Dr				E Gerard Ave				E Gerard Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	5	0	4	0	0	21	0	0	0	15	2	0	47
7:15 AM	0	0	0	0	8	0	6	0	2	20	0	0	0	22	2	0	60
7:30 AM	0	0	0	0	13	0	10	0	5	43	0	0	0	54	3	0	128
7:45 AM	0	0	0	0	9	0	8	0	6	33	0	0	0	34	2	0	92
8:00 AM	0	0	0	0	8	0	0	0	2	21	0	0	0	18	3	0	52
8:15 AM	0	0	0	0	2	0	2	0	2	14	0	0	0	11	1	0	32
8:30 AM	0	0	0	0	3	0	1	0	3	21	0	0	0	5	4	0	37
8:45 AM	0	0	0	0	3	0	3	0	0	9	0	1	0	3	1	0	20
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	51	0	34	0	20	182	0	1	0	162	18	0	468
APPROACH %'s :					60.00%	0.00%	40.00%	0.00%	9.85%	89.66%	0.00%	0.49%	0.00%	90.00%	10.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	38	0	24	0	15	117	0	0	0	128	10	0	332
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.731	0.000	0.600	0.000	0.625	0.680	0.000	0.000	0.000	0.593	0.833	0.000	0.648
					0.674				0.688				0.605				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	1	0	3	0	0	19	0	0	0	15	12	0	50
4:15 PM	0	0	0	0	3	0	1	0	2	12	0	0	0	22	5	0	45
4:30 PM	0	0	0	0	4	0	1	0	0	16	0	0	0	22	7	0	50
4:45 PM	0	0	0	0	3	0	2	0	1	16	0	0	0	18	4	0	44
5:00 PM	0	0	0	0	6	0	2	0	2	18	0	0	0	14	9	0	51
5:15 PM	0	0	0	0	6	0	1	0	1	16	0	0	0	12	7	0	43
5:30 PM	0	0	0	0	4	0	2	0	2	13	0	0	0	14	3	0	38
5:45 PM	0	0	0	0	4	0	0	0	1	12	0	0	0	11	4	0	32
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	31	0	12	0	9	122	0	0	0	128	51	0	353
APPROACH %'s :					72.09%	0.00%	27.91%	0.00%	6.87%	93.13%	0.00%	0.00%	0.00%	71.51%	28.49%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	16	0	6	0	5	62	0	0	0	76	25	0	190
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.667	0.000	0.750	0.000	0.625	0.861	0.000	0.000	0.000	0.864	0.694	0.000	0.931
					0.688				0.838				0.871				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Campus Pkwy & E Gerard Ave
City: Merced
Control: Signalized

Project ID: 24-090093-002
Date: 8/20/2024

Data - Totals

NS/EW Streets:	Campus Pkwy				Campus Pkwy				E Gerard Ave				E Gerard Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	1	0	2	2	1	0	2	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	47	4	0	0	62	8	0	10	3	22	0	7	1	0	0	171
7:15 AM	13	69	11	0	1	77	9	0	8	7	21	0	6	4	0	0	226
7:30 AM	14	95	4	0	0	97	38	0	22	5	35	0	5	5	2	0	322
7:45 AM	20	130	4	0	0	80	17	0	17	2	25	0	15	0	0	0	310
8:00 AM	10	119	4	0	1	75	10	0	27	0	9	0	2	2	1	0	260
8:15 AM	6	96	2	0	0	73	6	0	9	0	13	0	2	0	0	0	207
8:30 AM	6	71	2	0	0	61	7	0	13	1	13	0	1	0	0	0	175
8:45 AM	1	74	3	0	0	49	3	0	13	0	3	0	1	1	0	0	148
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	701	34	0	2	574	98	0	119	18	141	0	39	13	3	0	1819
APPROACH %'s :	9.48%	86.33%	4.19%	0.00%	0.30%	85.16%	14.54%	0.00%	42.81%	6.47%	50.72%	0.00%	70.91%	23.64%	5.45%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	57	413	23	0	2	329	74	0	74	14	90	0	28	11	3	0	1118
PEAK HR FACTOR :	0.713	0.794	0.523	0.000	0.500	0.848	0.487	0.000	0.685	0.500	0.643	0.000	0.467	0.550	0.375	0.000	0.868
	0.800				0.750				0.718				0.700				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	1	0	2	2	1	0	2	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	17	83	9	0	1	61	13	1	14	1	7	0	1	1	1	0	210
4:15 PM	13	102	5	1	2	81	24	0	10	1	5	0	3	3	1	0	251
4:30 PM	16	111	5	0	1	67	16	0	15	1	6	0	5	4	2	0	249
4:45 PM	15	68	11	2	0	52	16	0	14	0	9	0	1	1	0	0	189
5:00 PM	18	86	9	0	0	79	11	0	13	0	14	0	2	1	1	0	234
5:15 PM	13	86	9	0	0	86	10	0	13	1	15	0	1	2	1	0	237
5:30 PM	11	68	5	1	5	95	16	0	7	2	10	0	1	1	0	0	222
5:45 PM	10	71	5	1	1	58	12	0	14	0	14	0	2	0	0	0	188
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	113	675	58	5	10	579	118	1	100	6	80	0	16	13	6	0	1780
APPROACH %'s :	13.28%	79.32%	6.82%	0.59%	1.41%	81.78%	16.67%	0.14%	53.76%	3.23%	43.01%	0.00%	45.71%	37.14%	17.14%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	62	367	30	3	3	279	67	0	52	2	34	0	11	9	4	0	923
PEAK HR FACTOR :	0.861	0.827	0.682	0.375	0.375	0.861	0.698	0.000	0.867	0.500	0.607	0.000	0.550	0.563	0.500	0.000	0.919
	0.875				0.815				0.815				0.545				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99/Golden State Hwy SB Ramps & E Mission Ave
City: Merced
Control: Signalized

Project ID: 24-090093-004
Date: 8/20/2024

Data - Totals

NS/EW Streets:	SR 99/Golden State Hwy SB Ramps				SR 99/Golden State Hwy SB Ramps				E Mission Ave				E Mission Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0.5	0.5	1	0	0	1.5	0.5	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	30	0	6	0	0	21	9	0	0	22	37	0	125
7:15 AM	0	0	0	0	37	0	8	0	0	43	12	0	0	24	46	0	170
7:30 AM	0	0	0	0	45	0	13	0	0	41	12	0	0	49	46	0	206
7:45 AM	0	0	0	0	43	0	9	0	0	56	4	0	0	60	33	0	205
8:00 AM	0	0	0	0	48	0	9	0	0	94	5	0	0	45	37	0	238
8:15 AM	0	0	0	0	41	0	9	0	0	77	6	0	0	55	34	0	222
8:30 AM	0	0	0	0	21	0	4	0	0	37	5	0	0	29	29	0	125
8:45 AM	0	0	0	0	36	0	7	0	0	34	8	0	0	20	34	0	139
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	301	0	65	0	0	403	61	0	0	304	296	0	1430
APPROACH %'s :					82.24%	0.00%	17.76%	0.00%	0.00%	86.85%	13.15%	0.00%	0.00%	50.67%	49.33%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	177	0	40	0	0	268	27	0	0	209	150	0	871
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.922	0.000	0.769	0.000	0.000	0.713	0.563	0.000	0.000	0.871	0.815	0.000	0.915
					0.935				0.745				0.945				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0.5	0.5	1	0	0	1.5	0.5	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	55	2	7	0	0	52	10	0	0	35	41	0	202
4:15 PM	0	0	0	0	73	1	3	0	0	44	8	0	0	33	48	0	210
4:30 PM	0	0	0	0	70	2	8	0	0	45	12	0	0	34	50	0	221
4:45 PM	0	0	0	0	57	0	7	0	0	41	9	0	0	22	44	0	180
5:00 PM	0	0	0	0	54	0	4	0	0	62	4	0	0	31	37	0	192
5:15 PM	0	0	0	0	58	1	18	0	0	47	3	0	0	32	49	0	208
5:30 PM	0	0	0	0	46	0	14	0	0	30	11	0	0	41	40	0	182
5:45 PM	0	0	0	0	50	0	10	0	0	27	3	0	0	32	33	0	155
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	463	6	71	0	0	348	60	0	0	260	342	0	1550
APPROACH %'s :					85.74%	1.11%	13.15%	0.00%	0.00%	85.29%	14.71%	0.00%	0.00%	43.19%	56.81%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	255	5	25	0	0	182	39	0	0	124	183	0	813
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.873	0.625	0.781	0.000	0.000	0.875	0.813	0.000	0.000	0.886	0.915	0.000	0.920
					0.891				0.891				0.914				

National Data & Surveying Services

Intersection Turning Movement Count

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR 99/Golden State Hwy NB Ramps & E Mission Ave
City: Merced
Control: Signalized

Project ID: 24-090093-003
Date: 8/20/2024

Data - Totals

NS/EW Streets:	SR 99/Golden State Hwy NB Ramps				SR 99/Golden State Hwy NB Ramps				E Mission Ave				E Mission Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	0	0	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	0	30	0	0	0	0	0	6	42	0	0	0	53	56	0	191
7:15 AM	5	0	49	0	0	0	0	0	8	75	0	0	0	68	57	0	262
7:30 AM	9	0	65	0	0	0	0	0	6	78	0	0	0	83	72	0	313
7:45 AM	10	0	69	0	0	0	0	0	12	89	0	0	0	84	68	0	332
8:00 AM	6	0	42	0	0	0	0	0	11	128	0	0	0	75	45	0	307
8:15 AM	5	0	42	0	0	0	0	0	15	106	0	0	0	84	56	0	308
8:30 AM	4	0	45	0	0	0	0	0	7	48	0	0	0	54	47	0	205
8:45 AM	5	0	43	0	0	0	0	0	11	62	0	0	0	53	38	0	212
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	48	0	385	0	0	0	0	0	76	628	0	0	0	554	439	0	2130
APPROACH %'s :	11.09%	0.00%	88.91%	0.00%					10.80%	89.20%	0.00%	0.00%	0.00%	55.79%	44.21%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	30	0	218	0	0	0	0	0	44	401	0	0	0	326	241	0	1260
PEAK HR FACTOR :	0.750	0.000	0.790	0.000	0.000	0.000	0.000	0.000	0.733	0.783	0.000	0.000	0.000	0.970	0.837	0.000	0.949
	0.785								0.800				0.915				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	0	0	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	0	62	0	0	0	0	0	14	89	0	0	0	70	43	0	284
4:15 PM	8	0	57	0	0	0	0	0	14	107	0	0	0	74	40	0	300
4:30 PM	10	0	64	0	0	0	0	0	10	105	0	0	0	73	43	0	305
4:45 PM	5	0	49	0	0	0	0	0	8	85	0	0	0	61	29	0	237
5:00 PM	8	0	39	0	0	0	0	0	20	101	0	0	0	62	51	0	281
5:15 PM	7	0	54	0	0	0	0	0	13	89	0	0	0	72	35	0	270
5:30 PM	10	0	44	0	0	0	0	0	9	68	0	0	0	72	43	0	246
5:45 PM	4	0	47	0	0	0	0	0	3	76	0	0	0	60	40	0	230
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	58	0	416	0	0	0	0	0	91	720	0	0	0	544	324	0	2153
APPROACH %'s :	12.24%	0.00%	87.76%	0.00%					11.22%	88.78%	0.00%	0.00%	0.00%	62.67%	37.33%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	29	0	232	0	0	0	0	0	46	386	0	0	0	278	155	0	1126
PEAK HR FACTOR :	0.725	0.000	0.906	0.000	0.000	0.000	0.000	0.000	0.821	0.902	0.000	0.000	0.000	0.939	0.901	0.000	0.923
	0.882								0.893				0.933				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Coffee St & E Mission Ave/Campus Pkwy
City: Merced
Control: 4-Way Stop

Project ID: 24-090093-005
Date: 8/20/2024

Data - Totals

NS/EW Streets:	Coffee St				Coffee St				E Mission Ave/Campus Pkwy				E Mission Ave/Campus Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	0	1	0	0	1	1.5	0.5	0	1	1.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	39	6	6	0	0	6	4	0	2	40	30	0	21	65	0	1	220
7:15 AM	46	12	15	0	1	12	8	0	11	70	39	0	31	76	1	0	322
7:30 AM	51	14	17	0	5	10	13	0	22	90	35	0	32	86	4	0	379
7:45 AM	41	10	17	0	17	12	19	0	22	95	38	0	21	92	7	1	392
8:00 AM	33	8	10	0	3	6	18	0	26	109	38	0	17	69	0	0	337
8:15 AM	49	6	7	0	2	8	22	0	26	72	48	0	20	74	3	0	337
8:30 AM	33	7	14	0	2	8	10	0	9	52	34	0	21	54	2	0	246
8:45 AM	44	6	7	0	0	7	6	0	3	60	41	1	16	39	1	0	231
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	336	69	93	0	30	69	100	0	121	588	303	1	179	555	18	2	2464
APPROACH %'s :	67.47%	13.86%	18.67%	0.00%	15.08%	34.67%	50.25%	0.00%	11.94%	58.05%	29.91%	0.10%	23.74%	73.61%	2.39%	0.27%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	174	38	51	0	27	36	72	0	96	366	159	0	90	321	14	1	1445
PEAK HR FACTOR :	0.853	0.679	0.750	0.000	0.397	0.750	0.818	0.000	0.923	0.839	0.828	0.000	0.703	0.872	0.500	0.250	0.922
	0.802				0.703				0.897				0.873				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	0	1	0	0	1	1.5	0.5	0	1	1.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	49	11	11	0	1	10	10	0	14	80	58	0	11	53	3	0	311
4:15 PM	41	10	16	0	1	14	8	0	14	99	51	0	21	65	4	0	344
4:30 PM	46	6	7	0	0	10	10	0	15	113	38	0	22	60	0	0	327
4:45 PM	37	4	8	0	0	6	12	0	9	81	47	0	17	44	0	0	265
5:00 PM	32	5	8	0	0	7	6	0	12	90	35	0	26	72	2	0	295
5:15 PM	23	12	8	0	0	10	8	0	22	85	39	0	17	76	1	0	301
5:30 PM	40	9	14	0	1	4	7	0	8	67	37	0	43	69	0	0	299
5:45 PM	43	8	10	0	0	14	11	0	10	63	49	0	28	45	0	0	281
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	311	65	82	0	3	75	72	0	104	678	354	0	185	484	10	0	2423
APPROACH %'s :	67.90%	14.19%	17.90%	0.00%	2.00%	50.00%	48.00%	0.00%	9.15%	59.68%	31.16%	0.00%	27.25%	71.28%	1.47%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	173	31	42	0	2	40	40	0	52	373	194	0	71	222	7	0	1247
PEAK HR FACTOR :	0.883	0.705	0.656	0.000	0.500	0.714	0.833	0.000	0.867	0.825	0.836	0.000	0.807	0.854	0.438	0.000	0.906
	0.866				0.891				0.932				0.833				

Appendix B – Synchro Worksheets

EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	117	128	10	38	24
Future Vol, veh/h	15	117	128	10	38	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	69	69	61	61	67	67
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	170	210	16	57	36

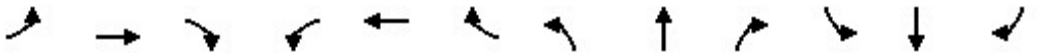
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	226	0	-	0	432	218
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	214	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1337	-	-	-	579	819
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1337	-	-	-	569	819
Mov Cap-2 Maneuver	-	-	-	-	569	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	819	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1337	-	-	-	645
HCM Lane V/C Ratio	0.016	-	-	-	0.143
HCM Control Delay (s)	7.7	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

HCM 6th Signalized Intersection Summary
2: Campus Parkway & Gerard Avenue

01/12/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	14	90	28	11	3	57	413	23	2	329	74
Future Volume (veh/h)	74	14	90	28	11	3	57	413	23	2	329	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	103	19	125	40	16	4	71	516	29	3	439	99
Peak Hour Factor	0.72	0.72	0.72	0.70	0.70	0.70	0.80	0.80	0.80	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	227	344	154	156	272	121	193	1928	860	85	1816	810
Arrive On Green	0.07	0.10	0.10	0.05	0.08	0.08	0.06	0.55	0.55	0.02	0.52	0.52
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	103	19	125	40	16	4	71	516	29	3	439	99
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.8	0.3	3.8	0.7	0.3	0.1	1.3	4.9	0.5	0.1	4.4	2.1
Cycle Q Clear(g_c), s	1.8	0.3	3.8	0.7	0.3	0.1	1.3	4.9	0.5	0.1	4.4	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	344	154	156	272	121	193	1928	860	85	1816	810
V/C Ratio(X)	0.45	0.06	0.81	0.26	0.06	0.03	0.37	0.27	0.03	0.04	0.24	0.12
Avail Cap(c_a), veh/h	571	1313	586	408	1145	511	462	1928	860	353	1816	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	25.8	17.0	29.1	27.0	18.1	28.7	7.6	6.6	30.0	8.5	7.9
Incr Delay (d2), s/veh	1.4	0.1	9.9	0.9	0.1	0.1	1.2	0.3	0.1	0.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	2.0	0.3	0.1	0.1	0.5	1.3	0.1	0.0	1.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	25.9	26.9	29.9	27.1	18.2	29.8	7.9	6.7	30.2	8.8	8.2
LnGrp LOS	C	C	C	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		247			60			616			541	
Approach Delay, s/veh		28.0			28.4			10.4			8.8	
Approach LOS		C			C			B			A	

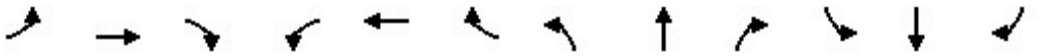
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	39.0	7.4	10.7	8.1	37.0	8.7	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	34.5	7.5	23.5	8.5	32.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	2.1	6.9	2.7	5.8	3.3	6.4	3.8	2.3
Green Ext Time (p_c), s	0.0	3.1	0.0	0.4	0.1	2.8	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	268	27	0	209	0	177	0	40	0	0	0
Future Volume (veh/h)	0	268	27	0	209	0	177	0	40	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	357	36	0	220	0	188	0	43			
Peak Hour Factor	0.75	0.75	0.75	0.95	0.95	0.95	0.94	0.94	0.94			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	547	55	0	596	0	1043	0	928			
Arrive On Green	0.00	0.17	0.17	0.00	0.17	0.00	0.68	0.00	0.68			
Sat Flow, veh/h	0	3328	324	0	3711	0	1527	0	1359			
Grp Volume(v), veh/h	0	193	200	0	220	0	188	0	43			
Grp Sat Flow(s),veh/h/ln	0	1763	1797	0	1763	0	1527	0	1359			
Q Serve(g_s), s	0.0	6.2	6.3	0.0	3.4	0.0	2.7	0.0	0.6			
Cycle Q Clear(g_c), s	0.0	6.2	6.3	0.0	3.4	0.0	2.7	0.0	0.6			
Prop In Lane	0.00		0.18	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	298	304	0	596	0	1043	0	928			
V/C Ratio(X)	0.00	0.65	0.66	0.00	0.37	0.00	0.18	0.00	0.05			
Avail Cap(c_a), veh/h	0	1146	1168	0	2291	0	1043	0	928			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	23.6	23.6	0.0	22.4	0.0	3.5	0.0	3.2			
Incr Delay (d2), s/veh	0.0	2.4	2.4	0.0	0.4	0.0	0.4	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	2.4	2.4	0.0	1.2	0.0	0.5	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.9	26.0	0.0	22.8	0.0	3.9	0.0	3.3			
LnGrp LOS	A	C	C	A	C	A	A	A	A			
Approach Vol, veh/h		393			220			231				
Approach Delay, s/veh		26.0			22.8			3.8				
Approach LOS		C			C			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				14.8		46.0		14.8				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				39.5		41.5		39.5				
Max Q Clear Time (g_c+I1), s				8.3		4.7		5.4				
Green Ext Time (p_c), s				2.0		1.2		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			19.1									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	401	0	0	326	241	30	0	218	0	0	0
Future Volume (veh/h)	44	401	0	0	326	241	30	0	218	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	55	501	0	0	354	262	38	0	276			
Peak Hour Factor	0.80	0.80	0.80	0.92	0.92	0.92	0.79	0.79	0.79			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	85	1203	0	0	794	354	798	0	710			
Arrive On Green	0.05	0.34	0.00	0.00	0.23	0.23	0.52	0.00	0.52			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	55	501	0	0	354	262	38	0	276			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	2.0	7.2	0.0	0.0	5.7	10.2	0.8	0.0	8.0			
Cycle Q Clear(g_c), s	2.0	7.2	0.0	0.0	5.7	10.2	0.8	0.0	8.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	85	1203	0	0	794	354	798	0	710			
V/C Ratio(X)	0.65	0.42	0.00	0.00	0.45	0.74	0.05	0.00	0.39			
Avail Cap(c_a), veh/h	308	2482	0	0	1628	726	798	0	710			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.9	16.7	0.0	0.0	22.0	23.8	7.7	0.0	9.5			
Incr Delay (d2), s/veh	8.0	0.2	0.0	0.0	0.4	3.0	0.1	0.0	1.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.0	2.4	0.0	0.0	2.0	3.5	0.2	0.0	2.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	16.9	0.0	0.0	22.4	26.8	7.8	0.0	11.1			
LnGrp LOS	D	B	A	A	C	C	A	A	B			
Approach Vol, veh/h		556			616			314				
Approach Delay, s/veh		19.1			24.3			10.7				
Approach LOS		B			C			B				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		39.0		27.0			7.7	19.4				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		34.5		46.5			11.5	30.5				
Max Q Clear Time (g_c+I1), s		10.0		9.2			4.0	12.2				
Green Ext Time (p_c), s		1.1		3.0			0.0	2.6				

Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	62	76	25	16	6
Future Vol, veh/h	5	62	76	25	16	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	87	87	69	69
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	74	87	29	23	9

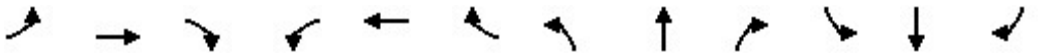
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	116	0	-	0	188	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	86	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1466	-	-	-	799	950
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1466	-	-	-	796	950
Mov Cap-2 Maneuver	-	-	-	-	796	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1466	-	-	-	833
HCM Lane V/C Ratio	0.004	-	-	-	0.038
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th Signalized Intersection Summary
2: Campus Parkway & Gerard Avenue

01/12/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	2	34	11	9	4	65	367	30	67	279	3
Future Volume (veh/h)	52	2	34	11	9	4	65	367	30	67	279	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	63	2	41	20	16	7	74	417	34	82	340	4
Peak Hour Factor	0.82	0.82	0.82	0.55	0.55	0.55	0.88	0.88	0.88	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	185	259	115	151	223	100	202	1841	821	212	1852	826
Arrive On Green	0.05	0.07	0.07	0.04	0.06	0.06	0.06	0.52	0.52	0.06	0.53	0.53
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	63	2	41	20	16	7	74	417	34	82	340	4
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.1	0.0	1.2	0.3	0.3	0.2	1.3	3.9	0.6	1.4	3.1	0.1
Cycle Q Clear(g_c), s	1.1	0.0	1.2	0.3	0.3	0.2	1.3	3.9	0.6	1.4	3.1	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	259	115	151	223	100	202	1841	821	212	1852	826
V/C Ratio(X)	0.34	0.01	0.36	0.13	0.07	0.07	0.37	0.23	0.04	0.39	0.18	0.00
Avail Cap(c_a), veh/h	540	1257	561	483	1198	535	597	1841	821	597	1852	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	25.9	16.0	27.7	26.6	15.9	27.3	7.8	7.0	27.2	7.5	6.8
Incr Delay (d2), s/veh	1.1	0.0	1.8	0.4	0.1	0.3	1.1	0.3	0.1	1.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6	0.1	0.1	0.1	0.5	1.0	0.2	0.5	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	25.9	17.8	28.1	26.7	16.2	28.4	8.1	7.1	28.3	7.7	6.8
LnGrp LOS	C	C	B	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		106			43			525			426	
Approach Delay, s/veh		24.4			25.7			10.9			11.7	
Approach LOS		C			C			B			B	

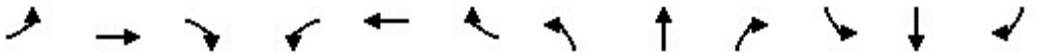
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	36.0	7.2	8.9	8.1	36.2	7.8	8.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	31.5	8.5	21.5	10.5	31.5	9.5	20.5
Max Q Clear Time (g_c+I1), s	3.4	5.9	2.3	3.2	3.3	5.1	3.1	2.3
Green Ext Time (p_c), s	0.1	2.4	0.0	0.1	0.1	1.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	182	39	0	124	0	255	5	25	0	0	0
Future Volume (veh/h)	0	182	39	0	124	0	255	5	25	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	204	44	0	136	0	287	6	28			
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	328	69	0	399	0	1133	24	1029			
Arrive On Green	0.00	0.11	0.11	0.00	0.11	0.00	0.76	0.76	0.76			
Sat Flow, veh/h	0	2989	612	0	3711	0	1497	31	1359			
Grp Volume(v), veh/h	0	123	125	0	136	0	293	0	28			
Grp Sat Flow(s),veh/h/ln	0	1763	1745	0	1763	0	1529	0	1359			
Q Serve(g_s), s	0.0	4.6	4.8	0.0	2.5	0.0	4.0	0.0	0.4			
Cycle Q Clear(g_c), s	0.0	4.6	4.8	0.0	2.5	0.0	4.0	0.0	0.4			
Prop In Lane	0.00		0.35	0.00		0.00	0.98		1.00			
Lane Grp Cap(c), veh/h	0	200	198	0	399	0	1157	0	1029			
V/C Ratio(X)	0.00	0.61	0.63	0.00	0.34	0.00	0.25	0.00	0.03			
Avail Cap(c_a), veh/h	0	724	717	0	1449	0	1157	0	1029			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	29.3	29.4	0.0	28.4	0.0	2.5	0.0	2.1			
Incr Delay (d2), s/veh	0.0	3.0	3.3	0.0	0.5	0.0	0.5	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.9	1.9	0.0	0.9	0.0	0.6	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.3	32.7	0.0	28.9	0.0	3.1	0.0	2.1			
LnGrp LOS	A	C	C	A	C	A	A	A	A			
Approach Vol, veh/h		248			136			321				
Approach Delay, s/veh		32.5			28.9			3.0				
Approach LOS		C			C			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				12.4		57.0		12.4				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				28.5		52.5		28.5				
Max Q Clear Time (g_c+I1), s				6.8		6.0		4.5				
Green Ext Time (p_c), s				1.1		1.9		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			18.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	386	0	0	278	155	29	0	232	0	0	0
Future Volume (veh/h)	46	386	0	0	278	155	29	0	232	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	52	434	0	0	299	167	33	0	264			
Peak Hour Factor	0.89	0.89	0.89	0.93	0.93	0.93	0.88	0.88	0.88			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	84	992	0	0	574	256	880	0	783			
Arrive On Green	0.05	0.28	0.00	0.00	0.16	0.16	0.58	0.00	0.58			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	52	434	0	0	299	167	33	0	264			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	1.8	6.4	0.0	0.0	4.9	6.3	0.6	0.0	6.5			
Cycle Q Clear(g_c), s	1.8	6.4	0.0	0.0	4.9	6.3	0.6	0.0	6.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	84	992	0	0	574	256	880	0	783			
V/C Ratio(X)	0.62	0.44	0.00	0.00	0.52	0.65	0.04	0.00	0.34			
Avail Cap(c_a), veh/h	349	2478	0	0	1531	683	880	0	783			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.6	18.6	0.0	0.0	24.2	24.8	5.8	0.0	7.0			
Incr Delay (d2), s/veh	7.3	0.3	0.0	0.0	0.7	2.8	0.1	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	2.2	0.0	0.0	1.8	2.2	0.2	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	18.9	0.0	0.0	25.0	27.6	5.9	0.0	8.2			
LnGrp LOS	D	B	A	A	C	C	A	A	A			
Approach Vol, veh/h		486			466			297				
Approach Delay, s/veh		20.9			25.9			8.0				
Approach LOS		C			C			A				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		41.0		22.3			7.5	14.8				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		36.5		44.5			12.5	27.5				
Max Q Clear Time (g_c+I1), s		8.5		8.4			3.8	8.3				
Green Ext Time (p_c), s		1.1		2.6			0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

OPENING YEAR 2025

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↗		↕	
Traffic Vol, veh/h	15	121	8	5	133	10	11	5	5	39	5	24
Future Vol, veh/h	15	121	8	5	133	10	11	5	5	39	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	61	61	92	92	92	67	92	67
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	175	9	5	218	16	12	5	5	58	5	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	234	0	0	184	0	0	481	468	180	465	464	226
Stage 1	-	-	-	-	-	-	224	224	-	236	236	-
Stage 2	-	-	-	-	-	-	257	244	-	229	228	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1328	-	-	1385	-	-	494	491	860	506	494	811
Stage 1	-	-	-	-	-	-	776	716	-	765	708	-
Stage 2	-	-	-	-	-	-	745	702	-	772	714	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1328	-	-	1385	-	-	460	480	860	490	483	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	460	480	-	490	483	-
Stage 1	-	-	-	-	-	-	762	703	-	751	705	-
Stage 2	-	-	-	-	-	-	704	699	-	747	701	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	12.1	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	466	860	1328	-	-	1385	-	-	571
HCM Lane V/C Ratio	0.037	0.006	0.016	-	-	0.004	-	-	0.174
HCM Control Delay (s)	13	9.2	7.8	0	-	7.6	0	-	12.6
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	0.1	-	-	0	-	-	0.6

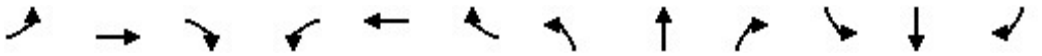
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	31	29	31	25	3
Future Vol, veh/h	2	31	29	31	25	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	34	32	34	27	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	66	0	-	0	87	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1529	-	-	-	912	1017
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	982	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	911	1017
Mov Cap-2 Maneuver	-	-	-	-	911	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	982	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1529	-	-	-	911	1017
HCM Lane V/C Ratio	0.001	-	-	-	0.03	0.003
HCM Control Delay (s)	7.4	0	-	-	9.1	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	17	92	34	13	3	58	468	32	2	368	83
Future Volume (veh/h)	87	17	92	34	13	3	58	468	32	2	368	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	121	24	128	49	19	4	72	585	40	3	491	111
Peak Hour Factor	0.72	0.72	0.72	0.70	0.70	0.70	0.80	0.80	0.80	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	238	352	157	161	273	122	194	1918	856	86	1807	806
Arrive On Green	0.07	0.10	0.10	0.05	0.08	0.08	0.06	0.54	0.54	0.03	0.51	0.51
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	121	24	128	49	19	4	72	585	40	3	491	111
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.2	0.4	3.9	0.9	0.3	0.1	1.3	5.8	0.8	0.1	5.0	2.3
Cycle Q Clear(g_c), s	2.2	0.4	3.9	0.9	0.3	0.1	1.3	5.8	0.8	0.1	5.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	352	157	161	273	122	194	1918	856	86	1807	806
V/C Ratio(X)	0.51	0.07	0.82	0.30	0.07	0.03	0.37	0.30	0.05	0.03	0.27	0.14
Avail Cap(c_a), veh/h	568	1307	583	406	1140	508	460	1918	856	351	1807	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	25.9	17.0	29.2	27.1	18.1	28.8	7.9	6.8	30.2	8.7	8.1
Incr Delay (d2), s/veh	1.7	0.1	9.8	1.0	0.1	0.1	1.2	0.4	0.1	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.2	2.1	0.4	0.1	0.1	0.5	1.5	0.2	0.0	1.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	25.9	26.8	30.3	27.2	18.3	30.0	8.3	6.9	30.3	9.1	8.5
LnGrp LOS	C	C	C	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		273			72			697			605	
Approach Delay, s/veh		28.2			28.8			10.5			9.1	
Approach LOS		C			C			B			A	

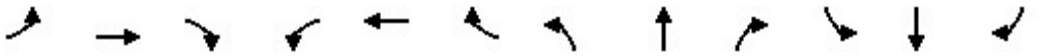
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	39.0	7.5	10.8	8.1	37.0	8.9	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	34.5	7.5	23.5	8.5	32.5	10.5	20.5
Max Q Clear Time (g_c+I1), s	2.1	7.8	2.9	5.9	3.3	7.0	4.2	2.3
Green Ext Time (p_c), s	0.0	3.6	0.0	0.4	0.1	3.2	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	283	28	0	227	0	269	0	41	0	0	0
Future Volume (veh/h)	0	283	28	0	227	0	269	0	41	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	377	37	0	239	0	286	0	44			
Peak Hour Factor	0.75	0.75	0.75	0.95	0.95	0.95	0.94	0.94	0.94			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	537	52	0	583	0	1082	0	963			
Arrive On Green	0.00	0.17	0.17	0.00	0.17	0.00	0.71	0.00	0.71			
Sat Flow, veh/h	0	3337	317	0	3711	0	1527	0	1359			
Grp Volume(v), veh/h	0	204	210	0	239	0	286	0	44			
Grp Sat Flow(s),veh/h/ln	0	1763	1799	0	1763	0	1527	0	1359			
Q Serve(g_s), s	0.0	7.8	7.9	0.0	4.3	0.0	4.8	0.0	0.7			
Cycle Q Clear(g_c), s	0.0	7.8	7.9	0.0	4.3	0.0	4.8	0.0	0.7			
Prop In Lane	0.00		0.18	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	292	298	0	583	0	1082	0	963			
V/C Ratio(X)	0.00	0.70	0.71	0.00	0.41	0.00	0.26	0.00	0.05			
Avail Cap(c_a), veh/h	0	754	769	0	1508	0	1082	0	963			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	28.1	28.1	0.0	26.6	0.0	3.7	0.0	3.1			
Incr Delay (d2), s/veh	0.0	3.0	3.1	0.0	0.5	0.0	0.6	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.1	3.2	0.0	1.6	0.0	1.0	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.1	31.2	0.0	27.1	0.0	4.3	0.0	3.2			
LnGrp LOS	A	C	C	A	C	A	A	A	A			
Approach Vol, veh/h		414			239			330				
Approach Delay, s/veh		31.1			27.1			4.2				
Approach LOS		C			C			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				16.3		55.0		16.3				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				30.5		50.5		30.5				
Max Q Clear Time (g_c+I1), s				9.9		6.8		6.3				
Green Ext Time (p_c), s				1.9		1.9		1.2				

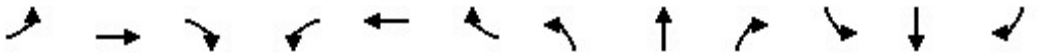
Intersection Summary												
HCM 6th Ctrl Delay			21.1									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	507	0	0	395	385	31	0	254	0	0	0
Future Volume (veh/h)	45	507	0	0	395	385	31	0	254	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	56	634	0	0	429	418	39	0	322			
Peak Hour Factor	0.80	0.80	0.80	0.92	0.92	0.92	0.79	0.79	0.79			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	81	1478	0	0	1104	493	703	0	626			
Arrive On Green	0.05	0.42	0.00	0.00	0.31	0.31	0.46	0.00	0.46			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	56	634	0	0	429	418	39	0	322			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	2.3	9.5	0.0	0.0	7.1	18.6	1.1	0.0	12.5			
Cycle Q Clear(g_c), s	2.3	9.5	0.0	0.0	7.1	18.6	1.1	0.0	12.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	81	1478	0	0	1104	493	703	0	626			
V/C Ratio(X)	0.69	0.43	0.00	0.00	0.39	0.85	0.06	0.00	0.51			
Avail Cap(c_a), veh/h	271	2189	0	0	1435	640	703	0	626			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.2	15.4	0.0	0.0	20.1	24.1	11.2	0.0	14.3			
Incr Delay (d2), s/veh	9.9	0.2	0.0	0.0	0.2	8.3	0.2	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.1	3.1	0.0	0.0	2.5	7.0	0.3	0.0	3.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	15.6	0.0	0.0	20.3	32.4	11.3	0.0	17.3			
LnGrp LOS	D	B	A	A	C	C	B	A	B			
Approach Vol, veh/h		690			847			361				
Approach Delay, s/veh		18.0			26.3			16.6				
Approach LOS		B			C			B				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		39.0		35.9			7.9	28.0				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		34.5		46.5			11.5	30.5				
Max Q Clear Time (g_c+I1), s		14.5		11.5			4.3	20.6				
Green Ext Time (p_c), s		1.2		4.0			0.0	2.8				

Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	442	60	21	424	23	88	9	28	30	9	101
Future Volume (veh/h)	70	442	60	21	424	23	88	9	28	30	9	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	480	65	23	461	25	96	10	30	33	10	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	102	771	344	46	661	295	125	1557	694	61	1429	638
Arrive On Green	0.06	0.22	0.22	0.03	0.19	0.19	0.07	0.44	0.44	0.03	0.41	0.41
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	76	480	65	23	461	25	96	10	30	33	10	110
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	2.7	7.9	2.2	0.8	7.9	0.8	3.4	0.1	0.7	1.2	0.1	2.9
Cycle Q Clear(g_c), s	2.7	7.9	2.2	0.8	7.9	0.8	3.4	0.1	0.7	1.2	0.1	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	771	344	46	661	295	125	1557	694	61	1429	638
V/C Ratio(X)	0.75	0.62	0.19	0.50	0.70	0.08	0.77	0.01	0.04	0.54	0.01	0.17
Avail Cap(c_a), veh/h	342	1557	694	205	1284	573	370	1557	694	205	1429	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	22.8	20.5	31.0	24.5	21.7	29.5	10.1	10.3	30.7	11.4	12.3
Incr Delay (d2), s/veh	10.3	0.8	0.3	8.0	1.3	0.1	9.5	0.0	0.1	7.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.9	0.7	0.4	2.9	0.3	1.7	0.0	0.2	0.6	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	23.6	20.8	39.0	25.9	21.8	38.9	10.1	10.4	37.9	11.5	12.9
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		621			509			136			153	
Approach Delay, s/veh		25.4			26.3			30.5			18.2	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	33.0	6.2	18.6	9.1	30.7	8.2	16.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	28.5	7.5	28.5	13.5	22.5	12.5	23.5
Max Q Clear Time (g_c+I1), s	3.2	2.7	2.8	9.9	5.4	4.9	4.7	9.9
Green Ext Time (p_c), s	0.0	0.1	0.0	2.7	0.1	0.3	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↗		↕	
Traffic Vol, veh/h	5	67	15	5	81	26	13	5	5	16	5	6
Future Vol, veh/h	5	67	15	5	81	26	13	5	5	16	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	92	92	87	87	92	92	92	69	92	69
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	80	16	5	93	30	14	5	5	23	5	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	123	0	0	96	0	0	225	233	88	223	226	108
Stage 1	-	-	-	-	-	-	100	100	-	118	118	-
Stage 2	-	-	-	-	-	-	125	133	-	105	108	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1458	-	-	1491	-	-	728	665	968	731	671	943
Stage 1	-	-	-	-	-	-	904	810	-	884	796	-
Stage 2	-	-	-	-	-	-	877	784	-	898	804	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1458	-	-	1491	-	-	713	660	968	718	666	943
Mov Cap-2 Maneuver	-	-	-	-	-	-	713	660	-	718	666	-
Stage 1	-	-	-	-	-	-	900	807	-	880	793	-
Stage 2	-	-	-	-	-	-	860	781	-	883	801	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	10	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	697	968	1458	-	-	1491	-	-	751
HCM Lane V/C Ratio	0.028	0.006	0.004	-	-	0.004	-	-	0.05
HCM Control Delay (s)	10.3	8.7	7.5	0	-	7.4	0	-	10
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	35	29	41	45	3
Future Vol, veh/h	4	35	29	41	45	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	38	32	45	49	3

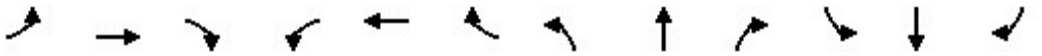
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	101	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1515	-	-	-	895	1009
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	974	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1515	-	-	-	892	1009
Mov Cap-2 Maneuver	-	-	-	-	892	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	974	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1515	-	-	-	892	1009
HCM Lane V/C Ratio	0.003	-	-	-	0.055	0.003
HCM Control Delay (s)	7.4	0	-	-	9.3	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0

HCM 6th Signalized Intersection Summary
2: Campus Parkway & Gerard Avenue

01/13/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	5	35	23	13	4	66	428	40	68	351	19
Future Volume (veh/h)	66	5	35	23	13	4	66	428	40	68	351	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	80	6	43	42	24	7	75	486	45	83	428	23
Peak Hour Factor	0.82	0.82	0.82	0.55	0.55	0.55	0.88	0.88	0.88	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	204	262	117	189	246	110	198	1808	807	252	1864	831
Arrive On Green	0.06	0.07	0.07	0.06	0.07	0.07	0.06	0.51	0.51	0.07	0.53	0.53
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	80	6	43	42	24	7	75	486	45	83	428	23
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.4	0.1	1.3	0.7	0.4	0.2	1.3	4.9	0.9	1.5	4.1	0.4
Cycle Q Clear(g_c), s	1.4	0.1	1.3	0.7	0.4	0.2	1.3	4.9	0.9	1.5	4.1	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	262	117	189	246	110	198	1808	807	252	1864	831
V/C Ratio(X)	0.39	0.02	0.37	0.22	0.10	0.06	0.38	0.27	0.06	0.33	0.23	0.03
Avail Cap(c_a), veh/h	514	1141	509	460	1085	484	514	1808	807	568	1864	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	27.2	17.2	28.6	27.6	16.3	28.7	8.7	7.7	27.9	8.0	7.1
Incr Delay (d2), s/veh	1.2	0.0	1.9	0.6	0.2	0.2	1.2	0.4	0.1	0.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.6	0.3	0.2	0.1	0.5	1.4	0.3	0.5	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	27.2	19.1	29.2	27.8	16.5	29.9	9.1	7.9	28.6	8.3	7.2
LnGrp LOS	C	C	B	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		129			73			606			534	
Approach Delay, s/veh		26.2			27.5			11.6			11.4	
Approach LOS		C			C			B			B	

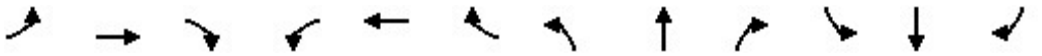
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	37.0	8.0	9.2	8.2	38.0	8.3	8.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	32.5	8.5	20.5	9.5	33.5	9.5	19.5
Max Q Clear Time (g_c+I1), s	3.5	6.9	2.7	3.3	3.3	6.1	3.4	2.4
Green Ext Time (p_c), s	0.1	2.9	0.0	0.1	0.1	2.5	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

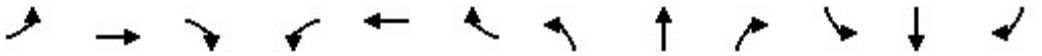
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	205	40	0	143	0	448	5	26	0	0	0
Future Volume (veh/h)	0	205	40	0	143	0	448	5	26	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	230	45	0	157	0	503	6	29			
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	334	64	0	400	0	1168	14	1051			
Arrive On Green	0.00	0.11	0.11	0.00	0.11	0.00	0.77	0.77	0.77			
Sat Flow, veh/h	0	3042	567	0	3711	0	1510	18	1359			
Grp Volume(v), veh/h	0	136	139	0	157	0	509	0	29			
Grp Sat Flow(s),veh/h/ln	0	1763	1753	0	1763	0	1528	0	1359			
Q Serve(g_s), s	0.0	5.9	6.1	0.0	3.3	0.0	9.0	0.0	0.4			
Cycle Q Clear(g_c), s	0.0	5.9	6.1	0.0	3.3	0.0	9.0	0.0	0.4			
Prop In Lane	0.00		0.32	0.00		0.00	0.99		1.00			
Lane Grp Cap(c), veh/h	0	200	199	0	400	0	1182	0	1051			
V/C Ratio(X)	0.00	0.68	0.70	0.00	0.39	0.00	0.43	0.00	0.03			
Avail Cap(c_a), veh/h	0	432	430	0	865	0	1182	0	1051			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	33.9	33.9	0.0	32.7	0.0	3.1	0.0	2.1			
Incr Delay (d2), s/veh	0.0	4.0	4.4	0.0	0.6	0.0	1.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	2.5	2.6	0.0	1.3	0.0	1.5	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.9	38.4	0.0	33.3	0.0	4.2	0.0	2.1			
LnGrp LOS	A	D	D	A	C	A	A	A	A			
Approach Vol, veh/h		275			157			538				
Approach Delay, s/veh		38.1			33.3			4.1				
Approach LOS		D			C			A				

Timer - Assigned Phs		4		6		8					
Phs Duration (G+Y+Rc), s		13.5		66.0		13.5					
Change Period (Y+Rc), s		4.5		4.5		4.5					
Max Green Setting (Gmax), s		19.5		61.5		19.5					
Max Q Clear Time (g_c+I1), s		8.1		11.0		5.3					
Green Ext Time (p_c), s		0.9		3.6		0.6					

Intersection Summary												
HCM 6th Ctrl Delay		18.5										
HCM 6th LOS		B										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	601	0	0	355	311	30	0	302	0	0	0
Future Volume (veh/h)	47	601	0	0	355	311	30	0	302	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	53	675	0	0	382	334	34	0	343			
Peak Hour Factor	0.89	0.89	0.89	0.93	0.93	0.93	0.88	0.88	0.88			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	80	1303	0	0	923	412	772	0	687			
Arrive On Green	0.05	0.37	0.00	0.00	0.26	0.26	0.51	0.00	0.51			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	53	675	0	0	382	334	34	0	343			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	2.1	10.8	0.0	0.0	6.5	14.4	0.8	0.0	12.0			
Cycle Q Clear(g_c), s	2.1	10.8	0.0	0.0	6.5	14.4	0.8	0.0	12.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	80	1303	0	0	923	412	772	0	687			
V/C Ratio(X)	0.66	0.52	0.00	0.00	0.41	0.81	0.04	0.00	0.50			
Avail Cap(c_a), veh/h	306	2174	0	0	1343	599	772	0	687			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	17.7	0.0	0.0	22.1	25.0	9.0	0.0	11.8			
Incr Delay (d2), s/veh	9.0	0.3	0.0	0.0	0.3	5.4	0.1	0.0	2.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.0	3.7	0.0	0.0	2.3	5.2	0.2	0.0	3.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	18.1	0.0	0.0	22.3	30.4	9.1	0.0	14.4			
LnGrp LOS	D	B	A	A	C	C	A	A	B			
Approach Vol, veh/h		728			716			377				
Approach Delay, s/veh		19.9			26.1			13.9				
Approach LOS		B			C			B				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		41.0		31.2			7.8	23.4				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		36.5		44.5			12.5	27.5				
Max Q Clear Time (g_c+I1), s		14.0		12.8			4.1	16.4				
Green Ext Time (p_c), s		1.3		4.2			0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			21.1									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	382	127	43	278	47	105	14	41	43	14	121
Future Volume (veh/h)	146	382	127	43	278	47	105	14	41	43	14	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	159	415	138	47	302	51	114	15	45	47	15	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	204	722	322	78	471	210	148	1506	672	78	1366	609
Arrive On Green	0.12	0.20	0.20	0.04	0.13	0.13	0.08	0.43	0.43	0.04	0.39	0.39
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	159	415	138	47	302	51	114	15	45	47	15	132
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	5.6	6.8	4.9	1.7	5.2	1.9	4.1	0.2	1.1	1.7	0.2	3.6
Cycle Q Clear(g_c), s	5.6	6.8	4.9	1.7	5.2	1.9	4.1	0.2	1.1	1.7	0.2	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	722	322	78	471	210	148	1506	672	78	1366	609
V/C Ratio(X)	0.78	0.57	0.43	0.60	0.64	0.24	0.77	0.01	0.07	0.60	0.01	0.22
Avail Cap(c_a), veh/h	480	1616	721	206	1068	476	371	1506	672	206	1366	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	23.1	22.3	30.2	26.4	25.0	28.9	10.6	10.9	30.2	12.1	13.2
Incr Delay (d2), s/veh	6.4	0.7	0.9	7.3	1.5	0.6	8.1	0.0	0.2	7.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.5	1.6	0.8	2.0	0.6	1.9	0.1	0.3	0.8	0.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	23.8	23.2	37.5	27.9	25.6	37.0	10.6	11.1	37.5	12.1	14.0
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		712			400			174			194	
Approach Delay, s/veh		26.0			28.7			28.0			19.5	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	32.0	7.3	17.7	9.9	29.4	11.9	13.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	27.5	7.5	29.5	13.5	21.5	17.5	19.5
Max Q Clear Time (g_c+I1), s	3.7	3.1	3.7	8.8	6.1	5.6	7.6	7.2
Green Ext Time (p_c), s	0.0	0.2	0.0	2.7	0.1	0.4	0.3	1.4

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

HORIZON YEAR 2046 WITHOUT PROJECT

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	181	198	15	59	37
Future Vol, veh/h	23	181	198	15	59	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	25	197	215	16	64	40

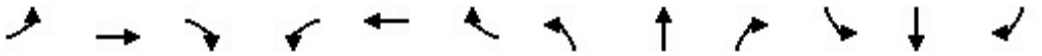
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	231	0	-	0	470	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1331	-	-	-	550	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	538	814
Mov Cap-2 Maneuver	-	-	-	-	538	-
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	619
HCM Lane V/C Ratio	0.019	-	-	-	0.169
HCM Control Delay (s)	7.8	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

HCM 6th Signalized Intersection Summary
2: Campus Parkway & Gerard Avenue

01/12/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	22	139	43	17	5	88	855	36	3	704	114
Future Volume (veh/h)	114	22	139	43	17	5	88	855	36	3	704	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	124	24	151	47	18	5	96	929	39	3	765	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	218	384	171	145	309	138	203	1954	872	155	1905	850
Arrive On Green	0.06	0.11	0.11	0.04	0.09	0.09	0.06	0.55	0.55	0.05	0.54	0.54
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	124	24	151	47	18	5	96	929	39	3	765	124
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.5	0.4	5.4	1.0	0.3	0.2	2.0	11.5	0.8	0.1	9.2	2.8
Cycle Q Clear(g_c), s	2.5	0.4	5.4	1.0	0.3	0.2	2.0	11.5	0.8	0.1	9.2	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	384	171	145	309	138	203	1954	872	155	1905	850
V/C Ratio(X)	0.57	0.06	0.88	0.32	0.06	0.04	0.47	0.48	0.04	0.02	0.40	0.15
Avail Cap(c_a), veh/h	404	1026	458	261	879	392	309	1954	872	261	1905	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	28.9	20.0	33.6	30.2	20.0	32.9	9.7	7.4	32.9	9.7	8.3
Incr Delay (d2), s/veh	2.3	0.1	13.6	1.3	0.1	0.1	1.7	0.8	0.1	0.0	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.2	3.0	0.4	0.1	0.1	0.8	3.3	0.2	0.0	2.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	28.9	33.6	34.8	30.3	20.1	34.6	10.6	7.4	33.0	10.4	8.6
LnGrp LOS	D	C	C	C	C	C	C	B	A	C	B	A
Approach Vol, veh/h		299			70			1064			892	
Approach Delay, s/veh		33.9			32.6			12.6			10.2	
Approach LOS		C			C			B			B	

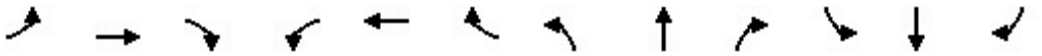
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	44.5	7.6	12.4	8.8	43.5	9.1	10.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	40.0	5.5	21.0	6.5	39.0	8.5	18.0
Max Q Clear Time (g_c+I1), s	2.1	13.5	3.0	7.4	4.0	11.2	4.5	2.3
Green Ext Time (p_c), s	0.0	6.2	0.0	0.4	0.0	5.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	414	42	0	323	0	278	0	62	0	0	0
Future Volume (veh/h)	0	414	42	0	323	0	278	0	62	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	450	46	0	340	0	296	0	66			
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.94	0.94	0.94			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	619	63	0	676	0	1045	0	929			
Arrive On Green	0.00	0.19	0.19	0.00	0.19	0.00	0.68	0.00	0.68			
Sat Flow, veh/h	0	3323	329	0	3711	0	1527	0	1359			
Grp Volume(v), veh/h	0	245	251	0	340	0	296	0	66			
Grp Sat Flow(s),veh/h/ln	0	1763	1796	0	1763	0	1527	0	1359			
Q Serve(g_s), s	0.0	9.4	9.5	0.0	6.2	0.0	5.5	0.0	1.2			
Cycle Q Clear(g_c), s	0.0	9.4	9.5	0.0	6.2	0.0	5.5	0.0	1.2			
Prop In Lane	0.00		0.18	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	338	344	0	676	0	1045	0	929			
V/C Ratio(X)	0.00	0.72	0.73	0.00	0.50	0.00	0.28	0.00	0.07			
Avail Cap(c_a), veh/h	0	767	782	0	1534	0	1045	0	929			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	27.5	27.5	0.0	26.2	0.0	4.5	0.0	3.8			
Incr Delay (d2), s/veh	0.0	3.0	3.0	0.0	0.6	0.0	0.7	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.8	3.9	0.0	2.4	0.0	1.2	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.4	30.5	0.0	26.7	0.0	5.2	0.0	3.9			
LnGrp LOS	A	C	C	A	C	A	A	A	A			
Approach Vol, veh/h		496			340			362				
Approach Delay, s/veh		30.4			26.7			4.9				
Approach LOS		C			C			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				18.4		54.0		18.4				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				31.5		49.5		31.5				
Max Q Clear Time (g_c+I1), s				11.5		7.5		8.2				
Green Ext Time (p_c), s				2.4		2.0		1.8				

Intersection Summary												
HCM 6th Ctrl Delay			21.7									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	624	0	0	703	385	46	0	555	0	0	0
Future Volume (veh/h)	68	624	0	0	703	385	46	0	555	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	74	678	0	0	764	418	50	0	603			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	95	1319	0	0	949	423	800	0	712			
Arrive On Green	0.05	0.37	0.00	0.00	0.27	0.27	0.52	0.00	0.52			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	74	678	0	0	764	418	50	0	603			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	3.6	13.1	0.0	0.0	17.8	23.3	1.4	0.0	33.4			
Cycle Q Clear(g_c), s	3.6	13.1	0.0	0.0	17.8	23.3	1.4	0.0	33.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	95	1319	0	0	949	423	800	0	712			
V/C Ratio(X)	0.78	0.51	0.00	0.00	0.80	0.99	0.06	0.00	0.85			
Avail Cap(c_a), veh/h	135	1398	0	0	949	423	800	0	712			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.1	21.4	0.0	0.0	30.0	32.0	10.3	0.0	17.9			
Incr Delay (d2), s/veh	16.9	0.3	0.0	0.0	5.1	40.3	0.2	0.0	12.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.9	4.8	0.0	0.0	7.4	12.6	0.5	0.0	11.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	21.7	0.0	0.0	35.1	72.3	10.5	0.0	29.9			
LnGrp LOS	E	C	A	A	D	E	B	A	C			
Approach Vol, veh/h		752			1182			653				
Approach Delay, s/veh		25.2			48.3			28.4				
Approach LOS		C			D			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		50.6		37.4			9.2	28.2				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		46.1		34.9			6.7	23.7				
Max Q Clear Time (g_c+I1), s		35.4		15.1			5.6	25.3				
Green Ext Time (p_c), s		2.0		3.8			0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			36.6									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	96	117	39	25	9
Future Vol, veh/h	8	96	117	39	25	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	9	104	127	42	27	10

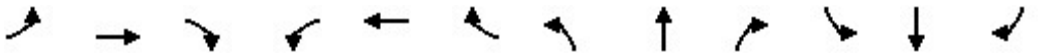
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	169	0	-	0	270	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1402	-	-	-	717	896
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1402	-	-	-	712	896
Mov Cap-2 Maneuver	-	-	-	-	712	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1402	-	-	-	753
HCM Lane V/C Ratio	0.006	-	-	-	0.049
HCM Control Delay (s)	7.6	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th Signalized Intersection Summary
2: Campus Parkway & Gerard Avenue

01/12/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	3	53	17	14	6	100	823	46	104	728	5
Future Volume (veh/h)	80	3	53	17	14	6	100	823	46	104	728	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	87	3	58	18	15	7	109	895	50	113	791	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	200	243	108	175	217	97	216	1970	878	218	1972	879
Arrive On Green	0.06	0.07	0.07	0.05	0.06	0.06	0.06	0.56	0.56	0.06	0.56	0.56
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	87	3	58	18	15	7	109	895	50	113	791	5
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.7	0.1	2.0	0.3	0.3	0.2	2.1	10.5	1.0	2.2	8.9	0.1
Cycle Q Clear(g_c), s	1.7	0.1	2.0	0.3	0.3	0.2	2.1	10.5	1.0	2.2	8.9	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	243	108	175	217	97	216	1970	878	218	1972	879
V/C Ratio(X)	0.43	0.01	0.53	0.10	0.07	0.07	0.50	0.45	0.06	0.52	0.40	0.01
Avail Cap(c_a), veh/h	319	980	437	250	909	405	417	1970	878	417	1972	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	30.3	19.8	31.6	30.9	19.5	31.7	9.1	7.0	31.6	8.7	6.8
Incr Delay (d2), s/veh	1.5	0.0	4.0	0.3	0.1	0.3	1.8	0.8	0.1	1.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.0	0.1	0.1	0.1	0.9	2.9	0.3	0.9	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	30.3	23.8	31.9	31.0	19.8	33.5	9.9	7.1	33.5	9.4	6.8
LnGrp LOS	C	C	C	C	C	B	C	A	A	C	A	A
Approach Vol, veh/h		148			40			1054			909	
Approach Delay, s/veh		29.5			29.4			12.2			12.3	
Approach LOS		C			C			B			B	

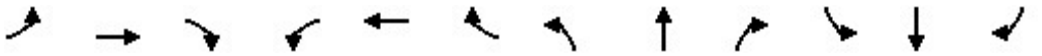
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	43.5	8.1	9.3	8.9	43.5	8.6	8.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	39.0	5.1	19.4	8.5	39.0	6.5	18.0
Max Q Clear Time (g_c+I1), s	4.2	12.5	2.3	4.0	4.1	10.9	3.7	2.3
Green Ext Time (p_c), s	0.1	6.0	0.0	0.1	0.1	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	281	60	0	192	0	408	8	39	0	0	0
Future Volume (veh/h)	0	281	60	0	192	0	408	8	39	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	305	65	0	209	0	443	9	42			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	425	89	0	517	0	1106	22	1003			
Arrive On Green	0.00	0.15	0.15	0.00	0.15	0.00	0.74	0.74	0.74			
Sat Flow, veh/h	0	2992	609	0	3711	0	1498	30	1359			
Grp Volume(v), veh/h	0	184	186	0	209	0	452	0	42			
Grp Sat Flow(s),veh/h/ln	0	1763	1746	0	1763	0	1529	0	1359			
Q Serve(g_s), s	0.0	7.7	7.9	0.0	4.2	0.0	8.6	0.0	0.7			
Cycle Q Clear(g_c), s	0.0	7.7	7.9	0.0	4.2	0.0	8.6	0.0	0.7			
Prop In Lane	0.00		0.35	0.00		0.00	0.98		1.00			
Lane Grp Cap(c), veh/h	0	258	256	0	517	0	1128	0	1003			
V/C Ratio(X)	0.00	0.71	0.73	0.00	0.40	0.00	0.40	0.00	0.04			
Avail Cap(c_a), veh/h	0	532	527	0	1063	0	1128	0	1003			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	31.7	31.8	0.0	30.2	0.0	3.8	0.0	2.8			
Incr Delay (d2), s/veh	0.0	3.6	3.9	0.0	0.5	0.0	1.1	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.2	3.3	0.0	1.6	0.0	1.7	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.3	35.7	0.0	30.7	0.0	4.9	0.0	2.8			
LnGrp LOS	A	D	D	A	C	A	A	A	A			
Approach Vol, veh/h		370			209			494				
Approach Delay, s/veh		35.5			30.7			4.7				
Approach LOS		D			C			A				

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				15.9		62.0		15.9				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				23.5		57.5		23.5				
Max Q Clear Time (g_c+I1), s				9.9		10.6		6.2				
Green Ext Time (p_c), s				1.5		3.1		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	611	0	0	730	248	45	0	620	0	0	0
Future Volume (veh/h)	71	611	0	0	730	248	45	0	620	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	77	664	0	0	785	267	49	0	674			
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	98	1245	0	0	870	388	833	0	741			
Arrive On Green	0.06	0.35	0.00	0.00	0.25	0.25	0.55	0.00	0.55			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	77	664	0	0	785	267	49	0	674			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	3.8	13.3	0.0	0.0	19.2	13.7	1.3	0.0	39.7			
Cycle Q Clear(g_c), s	3.8	13.3	0.0	0.0	19.2	13.7	1.3	0.0	39.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	98	1245	0	0	870	388	833	0	741			
V/C Ratio(X)	0.78	0.53	0.00	0.00	0.90	0.69	0.06	0.00	0.91			
Avail Cap(c_a), veh/h	109	1289	0	0	892	398	833	0	741			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.4	22.9	0.0	0.0	32.4	30.4	9.5	0.0	18.2			
Incr Delay (d2), s/veh	27.5	0.4	0.0	0.0	12.1	4.8	0.1	0.0	17.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.3	5.0	0.0	0.0	8.8	5.2	0.4	0.0	13.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	23.3	0.0	0.0	44.6	35.2	9.6	0.0	35.3			
LnGrp LOS	E	C	A	A	D	D	A	A	D			
Approach Vol, veh/h		741			1052			723				
Approach Delay, s/veh		28.0			42.2			33.6				
Approach LOS		C			D			C				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		53.0		35.9			9.5	26.4				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		48.5		32.5			5.5	22.5				
Max Q Clear Time (g_c+I1), s		41.7		15.3			5.8	21.2				
Green Ext Time (p_c), s		1.8		3.6			0.0	0.8				

Intersection Summary												
HCM 6th Ctrl Delay			35.5									
HCM 6th LOS			D									

HORIZON YEAR 2046 PLUS PROJECT

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↗		↕	
Traffic Vol, veh/h	23	183	8	5	201	15	11	5	5	59	5	37
Future Vol, veh/h	23	183	8	5	201	15	11	5	5	59	5	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	25	199	9	5	218	16	12	5	5	64	5	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	234	0	0	208	0	0	513	498	204	495	494	226
Stage 1	-	-	-	-	-	-	254	254	-	236	236	-
Stage 2	-	-	-	-	-	-	259	244	-	259	258	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1328	-	-	1357	-	-	470	472	834	483	475	811
Stage 1	-	-	-	-	-	-	748	695	-	765	708	-
Stage 2	-	-	-	-	-	-	744	702	-	744	692	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1328	-	-	1357	-	-	434	460	834	467	463	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	434	460	-	467	463	-
Stage 1	-	-	-	-	-	-	732	680	-	749	705	-
Stage 2	-	-	-	-	-	-	699	699	-	718	677	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	12.5	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	442	834	1328	-	-	1357	-	-	553
HCM Lane V/C Ratio	0.039	0.007	0.019	-	-	0.004	-	-	0.199
HCM Control Delay (s)	13.5	9.3	7.8	0	-	7.7	0	-	13.1
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	0.1	-	-	0	-	-	0.7

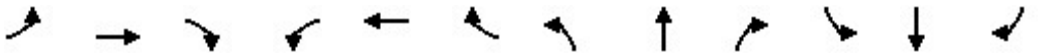
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	47	43	31	25	3
Future Vol, veh/h	2	47	43	31	25	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	51	47	34	27	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	119	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1510	-	-	-	874	998
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	965	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1510	-	-	-	873	998
Mov Cap-2 Maneuver	-	-	-	-	873	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	965	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1510	-	-	-	873	998
HCM Lane V/C Ratio	0.001	-	-	-	0.031	0.003
HCM Control Delay (s)	7.4	0	-	-	9.3	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	24	139	49	19	5	88	901	44	3	734	122
Future Volume (veh/h)	126	24	139	49	19	5	88	901	44	3	734	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	137	26	151	53	21	5	96	979	48	3	798	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	222	384	171	155	316	141	202	1947	868	155	1898	847
Arrive On Green	0.06	0.11	0.11	0.05	0.09	0.09	0.06	0.55	0.55	0.05	0.54	0.54
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	137	26	151	53	21	5	96	979	48	3	798	133
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.8	0.5	5.4	1.1	0.4	0.2	2.0	12.5	1.0	0.1	9.8	3.1
Cycle Q Clear(g_c), s	2.8	0.5	5.4	1.1	0.4	0.2	2.0	12.5	1.0	0.1	9.8	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	384	171	155	316	141	202	1947	868	155	1898	847
V/C Ratio(X)	0.62	0.07	0.88	0.34	0.07	0.04	0.47	0.50	0.06	0.02	0.42	0.16
Avail Cap(c_a), veh/h	402	1032	460	251	876	391	308	1947	868	260	1898	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	29.0	20.1	33.5	30.2	20.0	33.0	10.1	7.5	33.1	10.0	8.4
Incr Delay (d2), s/veh	2.8	0.1	13.5	1.3	0.1	0.1	1.7	0.9	0.1	0.0	0.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	3.0	0.4	0.2	0.1	0.8	3.6	0.3	0.0	2.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	29.0	33.6	34.8	30.3	20.1	34.7	11.0	7.6	33.1	10.7	8.8
LnGrp LOS	D	C	C	C	C	C	C	B	A	C	B	A
Approach Vol, veh/h		314			79			1123			934	
Approach Delay, s/veh		34.2			32.7			12.9			10.5	
Approach LOS		C			C			B			B	

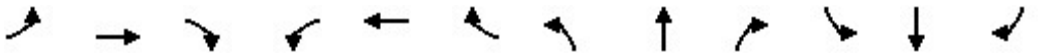
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	44.5	7.8	12.4	8.8	43.5	9.2	11.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	40.0	5.3	21.2	6.5	39.0	8.5	18.0
Max Q Clear Time (g_c+I1), s	2.1	14.5	3.1	7.4	4.0	11.8	4.8	2.4
Green Ext Time (p_c), s	0.0	6.6	0.0	0.5	0.0	5.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	424	42	0	337	0	362	0	62	0	0	0
Future Volume (veh/h)	0	424	42	0	337	0	362	0	62	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	461	46	0	355	0	385	0	66			
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.94	0.94	0.94			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	614	61	0	668	0	1059	0	943			
Arrive On Green	0.00	0.19	0.19	0.00	0.19	0.00	0.69	0.00	0.69			
Sat Flow, veh/h	0	3331	322	0	3711	0	1527	0	1359			
Grp Volume(v), veh/h	0	250	257	0	355	0	385	0	66			
Grp Sat Flow(s),veh/h/ln	0	1763	1798	0	1763	0	1527	0	1359			
Q Serve(g_s), s	0.0	10.3	10.4	0.0	7.0	0.0	8.0	0.0	1.2			
Cycle Q Clear(g_c), s	0.0	10.3	10.4	0.0	7.0	0.0	8.0	0.0	1.2			
Prop In Lane	0.00		0.18	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	334	341	0	668	0	1059	0	943			
V/C Ratio(X)	0.00	0.75	0.75	0.00	0.53	0.00	0.36	0.00	0.07			
Avail Cap(c_a), veh/h	0	629	641	0	1257	0	1059	0	943			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	29.5	29.5	0.0	28.2	0.0	4.8	0.0	3.8			
Incr Delay (d2), s/veh	0.0	3.4	3.4	0.0	0.7	0.0	1.0	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.2	4.3	0.0	2.7	0.0	1.8	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.9	32.9	0.0	28.8	0.0	5.8	0.0	3.9			
LnGrp LOS	A	C	C	A	C	A	A	A	A			
Approach Vol, veh/h		507			355			451				
Approach Delay, s/veh		32.9			28.8			5.5				
Approach LOS		C			C			A				

Timer - Assigned Phs		4		6		8					
Phs Duration (G+Y+Rc), s		19.1		58.0		19.1					
Change Period (Y+Rc), s		4.5		4.5		4.5					
Max Green Setting (Gmax), s		27.5		53.5		27.5					
Max Q Clear Time (g_c+I1), s		12.4		10.0		9.0					
Green Ext Time (p_c), s		2.2		2.6		1.8					

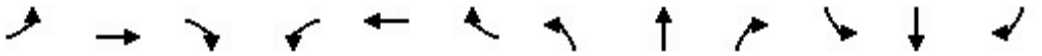
Intersection Summary												
HCM 6th Ctrl Delay		22.4										
HCM 6th LOS		C										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	718	0	0	759	511	46	0	583	0	0	0
Future Volume (veh/h)	68	718	0	0	759	511	46	0	583	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	74	780	0	0	825	555	50	0	634			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	96	1462	0	0	1066	475	717	0	638			
Arrive On Green	0.05	0.41	0.00	0.00	0.30	0.30	0.47	0.00	0.47			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	74	780	0	0	825	555	50	0	634			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	3.2	12.9	0.0	0.0	16.6	23.5	1.4	0.0	36.1			
Cycle Q Clear(g_c), s	3.2	12.9	0.0	0.0	16.6	23.5	1.4	0.0	36.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	96	1462	0	0	1066	475	717	0	638			
V/C Ratio(X)	0.77	0.53	0.00	0.00	0.77	1.17	0.07	0.00	0.99			
Avail Cap(c_a), veh/h	375	2018	0	0	1066	475	717	0	638			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	36.3	17.1	0.0	0.0	24.7	27.1	11.3	0.0	20.5			
Incr Delay (d2), s/veh	12.1	0.3	0.0	0.0	3.6	96.1	0.2	0.0	34.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	4.4	0.0	0.0	6.5	20.2	0.4	0.0	15.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	17.4	0.0	0.0	28.3	123.2	11.5	0.0	54.6			
LnGrp LOS	D	B	A	A	C	F	B	A	D			
Approach Vol, veh/h		854			1380			684				
Approach Delay, s/veh		20.1			66.5			51.4				
Approach LOS		C			E			D				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		41.0		36.7			8.7	28.0				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		36.5		44.5			16.5	23.5				
Max Q Clear Time (g_c+I1), s		38.1		14.9			5.2	25.5				
Green Ext Time (p_c), s		0.0		5.0			0.1	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			49.4									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	890	60	21	841	23	88	9	28	30	9	101
Future Volume (veh/h)	70	890	60	21	841	23	88	9	28	30	9	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	967	65	23	914	25	96	10	30	33	10	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	1243	555	45	1137	507	123	1242	554	58	1113	497
Arrive On Green	0.06	0.35	0.35	0.03	0.32	0.32	0.07	0.35	0.35	0.03	0.32	0.32
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	76	967	65	23	914	25	96	10	30	33	10	110
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	3.2	18.6	2.1	1.0	18.0	0.8	4.1	0.1	1.0	1.4	0.1	3.9
Cycle Q Clear(g_c), s	3.2	18.6	2.1	1.0	18.0	0.8	4.1	0.1	1.0	1.4	0.1	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	1243	555	45	1137	507	123	1242	554	58	1113	497
V/C Ratio(X)	0.78	0.78	0.12	0.51	0.80	0.05	0.78	0.01	0.05	0.57	0.01	0.22
Avail Cap(c_a), veh/h	209	1693	755	116	1508	673	151	1242	554	140	1113	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	21.9	16.6	36.6	23.5	17.7	34.8	16.0	16.3	36.2	17.8	19.1
Incr Delay (d2), s/veh	12.3	1.6	0.1	8.9	2.4	0.0	19.0	0.0	0.2	8.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	6.7	0.7	0.5	6.7	0.3	2.3	0.1	0.3	0.7	0.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	23.6	16.7	45.4	26.0	17.8	53.8	16.0	16.4	44.5	17.9	20.2
LnGrp LOS	D	C	B	D	C	B	D	B	B	D	B	C
Approach Vol, veh/h		1108			962			136			153	
Approach Delay, s/veh		24.8			26.2			42.8			25.3	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	31.3	6.4	31.3	9.8	28.5	8.7	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.0	24.5	5.0	36.5	6.5	24.0	9.0	32.5
Max Q Clear Time (g_c+I1), s	3.4	3.0	3.0	20.6	6.1	5.9	5.2	20.0
Green Ext Time (p_c), s	0.0	0.1	0.0	5.5	0.0	0.3	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	8	100	15	5	121	39	13	5	5	25	5	9
Future Vol, veh/h	8	100	15	5	121	39	13	5	5	25	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	109	16	5	132	42	14	5	5	27	5	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	174	0	0	125	0	0	306	319	117	303	306	153
Stage 1	-	-	-	-	-	-	135	135	-	163	163	-
Stage 2	-	-	-	-	-	-	171	184	-	140	143	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1397	-	-	1455	-	-	644	596	932	647	606	890
Stage 1	-	-	-	-	-	-	866	783	-	837	761	-
Stage 2	-	-	-	-	-	-	829	746	-	861	777	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1397	-	-	1455	-	-	627	589	932	633	599	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	589	-	633	599	-
Stage 1	-	-	-	-	-	-	860	778	-	831	758	-
Stage 2	-	-	-	-	-	-	811	743	-	844	772	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	10.5	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	616	932	1397	-	-	1455	-	-	673
HCM Lane V/C Ratio	0.032	0.006	0.006	-	-	0.004	-	-	0.063
HCM Control Delay (s)	11	8.9	7.6	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	52	42	41	45	3
Future Vol, veh/h	4	52	42	41	45	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	57	46	45	49	3

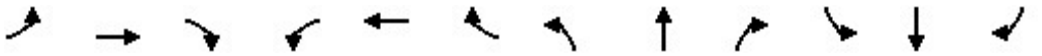
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	91	0	-	0	134	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1498	-	-	-	857	991
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1498	-	-	-	854	991
Mov Cap-2 Maneuver	-	-	-	-	854	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1498	-	-	-	854	991
HCM Lane V/C Ratio	0.003	-	-	-	0.057	0.003
HCM Control Delay (s)	7.4	0	-	-	9.5	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0

HCM 6th Signalized Intersection Summary
2: Campus Parkway & Gerard Avenue

01/13/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	6	53	29	18	6	100	875	56	104	790	20
Future Volume (veh/h)	93	6	53	29	18	6	100	875	56	104	790	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	101	7	58	32	20	7	109	951	61	113	859	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	210	245	109	194	228	102	215	1956	872	217	1958	873
Arrive On Green	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.55	0.55	0.06	0.56	0.56
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	101	7	58	32	20	7	109	951	61	113	859	22
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.0	0.1	2.0	0.6	0.4	0.2	2.2	11.6	1.3	2.2	10.1	0.4
Cycle Q Clear(g_c), s	2.0	0.1	2.0	0.6	0.4	0.2	2.2	11.6	1.3	2.2	10.1	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	245	109	194	228	102	215	1956	872	217	1958	873
V/C Ratio(X)	0.48	0.03	0.53	0.17	0.09	0.07	0.51	0.49	0.07	0.52	0.44	0.03
Avail Cap(c_a), veh/h	366	1023	456	249	903	403	366	1956	872	366	1958	873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	30.5	20.0	31.6	30.9	19.5	31.9	9.5	7.3	31.9	9.2	7.1
Incr Delay (d2), s/veh	1.7	0.0	4.0	0.4	0.2	0.3	1.9	0.9	0.2	1.9	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.1	1.0	0.3	0.2	0.1	0.9	3.3	0.4	0.9	2.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	30.5	23.9	32.0	31.1	19.8	33.8	10.4	7.4	33.8	9.9	7.1
LnGrp LOS	C	C	C	C	C	B	C	B	A	C	A	A
Approach Vol, veh/h		166			59			1121			994	
Approach Delay, s/veh		30.1			30.2			12.5			12.6	
Approach LOS		C			C			B			B	

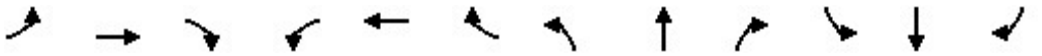
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	43.5	8.5	9.4	8.9	43.5	8.8	9.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	39.0	5.1	20.4	7.5	39.0	7.5	18.0
Max Q Clear Time (g_c+I1), s	4.2	13.6	2.6	4.0	4.2	12.1	4.0	2.4
Green Ext Time (p_c), s	0.1	6.4	0.0	0.1	0.1	5.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	301	60	0	208	0	582	8	39	0	0	0
Future Volume (veh/h)	0	301	60	0	208	0	582	8	39	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	0	1604	1604	1604			
Adj Flow Rate, veh/h	0	327	65	0	226	0	633	9	42			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	3	3	0	3	0	20	20	20			
Cap, veh/h	0	433	85	0	520	0	1121	16	1011			
Arrive On Green	0.00	0.15	0.15	0.00	0.15	0.00	0.74	0.74	0.74			
Sat Flow, veh/h	0	3030	577	0	3711	0	1507	21	1359			
Grp Volume(v), veh/h	0	195	197	0	226	0	642	0	42			
Grp Sat Flow(s),veh/h/ln	0	1763	1752	0	1763	0	1528	0	1359			
Q Serve(g_s), s	0.0	8.8	9.0	0.0	4.8	0.0	15.3	0.0	0.7			
Cycle Q Clear(g_c), s	0.0	8.8	9.0	0.0	4.8	0.0	15.3	0.0	0.7			
Prop In Lane	0.00		0.33	0.00		0.00	0.99		1.00			
Lane Grp Cap(c), veh/h	0	260	258	0	520	0	1137	0	1011			
V/C Ratio(X)	0.00	0.75	0.76	0.00	0.43	0.00	0.56	0.00	0.04			
Avail Cap(c_a), veh/h	0	416	413	0	831	0	1137	0	1011			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	33.8	33.9	0.0	32.1	0.0	4.7	0.0	2.8			
Incr Delay (d2), s/veh	0.0	4.3	4.7	0.0	0.6	0.0	2.0	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.7	3.8	0.0	1.9	0.0	3.2	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.1	38.6	0.0	32.7	0.0	6.7	0.0	2.9			
LnGrp LOS	A	D	D	A	C	A	A	A	A			
Approach Vol, veh/h		392			226			684				
Approach Delay, s/veh		38.3			32.7			6.5				
Approach LOS		D			C			A				

Timer - Assigned Phs		4		6		8					
Phs Duration (G+Y+Rc), s		16.7		66.0		16.7					
Change Period (Y+Rc), s		4.5		4.5		4.5					
Max Green Setting (Gmax), s		19.5		61.5		19.5					
Max Q Clear Time (g_c+I1), s		11.0		17.3		6.8					
Green Ext Time (p_c), s		1.2		4.9		0.9					

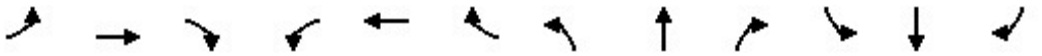
Intersection Summary												
HCM 6th Ctrl Delay		20.6										
HCM 6th LOS		C										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	804	0	0	794	393	45	0	678	0	0	0
Future Volume (veh/h)	71	804	0	0	794	393	45	0	678	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	0	1856	1856	1604	1604	1604			
Adj Flow Rate, veh/h	77	874	0	0	854	423	49	0	737			
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	0	3	3	20	20	20			
Cap, veh/h	98	1289	0	0	916	408	816	0	726			
Arrive On Green	0.06	0.37	0.00	0.00	0.26	0.26	0.53	0.00	0.53			
Sat Flow, veh/h	1767	3618	0	0	3618	1572	1527	0	1359			
Grp Volume(v), veh/h	77	874	0	0	854	423	49	0	737			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	0	1763	1572	1527	0	1359			
Q Serve(g_s), s	3.9	18.8	0.0	0.0	21.2	23.3	1.4	0.0	47.9			
Cycle Q Clear(g_c), s	3.9	18.8	0.0	0.0	21.2	23.3	1.4	0.0	47.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	98	1289	0	0	916	408	816	0	726			
V/C Ratio(X)	0.78	0.68	0.00	0.00	0.93	1.04	0.06	0.00	1.02			
Avail Cap(c_a), veh/h	104	1301	0	0	916	408	816	0	726			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.8	24.0	0.0	0.0	32.4	33.2	10.1	0.0	20.9			
Incr Delay (d2), s/veh	29.6	1.4	0.0	0.0	15.9	54.0	0.1	0.0	37.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.4	7.1	0.0	0.0	10.2	14.1	0.4	0.0	20.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.4	25.4	0.0	0.0	48.4	87.2	10.2	0.0	58.2			
LnGrp LOS	E	C	A	A	D	F	B	A	F			
Approach Vol, veh/h		951			1277			786				
Approach Delay, s/veh		29.1			61.2			55.3				
Approach LOS		C			E			E				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		52.4		37.3			9.5	27.8				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		47.9		33.1			5.3	23.3				
Max Q Clear Time (g_c+I1), s		49.9		20.8			5.9	25.3				
Green Ext Time (p_c), s		0.0		4.2			0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			49.5									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	856	127	43	729	47	105	14	41	43	14	121
Future Volume (veh/h)	146	856	127	43	729	47	105	14	41	43	14	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	159	930	138	47	792	51	114	15	45	47	15	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	197	1264	564	74	1019	454	146	1114	497	74	970	433
Arrive On Green	0.11	0.36	0.36	0.04	0.29	0.29	0.08	0.32	0.32	0.04	0.28	0.28
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	159	930	138	47	792	51	114	15	45	47	15	132
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	6.5	17.1	4.6	1.9	15.3	1.8	4.7	0.2	1.5	1.9	0.2	4.9
Cycle Q Clear(g_c), s	6.5	17.1	4.6	1.9	15.3	1.8	4.7	0.2	1.5	1.9	0.2	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	1264	564	74	1019	454	146	1114	497	74	970	433
V/C Ratio(X)	0.81	0.74	0.24	0.64	0.78	0.11	0.78	0.01	0.09	0.64	0.02	0.31
Avail Cap(c_a), veh/h	249	1673	746	159	1493	666	249	1114	497	154	970	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	20.8	16.8	35.1	24.3	19.4	33.5	17.5	17.9	35.1	19.6	21.3
Incr Delay (d2), s/veh	14.3	1.2	0.2	8.8	1.6	0.1	8.7	0.0	0.4	8.8	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.0	1.4	0.9	5.7	0.6	2.3	0.1	0.5	1.0	0.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	22.0	17.0	43.9	25.9	19.5	42.2	17.5	18.3	43.9	19.7	23.2
LnGrp LOS	D	C	B	D	C	B	D	B	B	D	B	C
Approach Vol, veh/h		1227			890			174			194	
Approach Delay, s/veh		24.6			26.4			33.9			27.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	28.0	7.6	31.2	10.6	25.0	12.8	26.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	23.5	6.7	35.3	10.5	19.5	10.5	31.5
Max Q Clear Time (g_c+I1), s	3.9	3.5	3.9	19.1	6.7	6.9	8.5	17.3
Green Ext Time (p_c), s	0.0	0.1	0.0	5.6	0.1	0.3	0.1	4.2

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Appendix C – Approved/Pending Project Information

6. 2035 Conditions

This chapter discusses Cumulative (2035) traffic conditions both without and with the Project, considering the traffic growth from approved and anticipated development in Merced through the year 2035.

Traffic Growth from Approved and Anticipated Development

The City of Merced provided a list of approved projects expected to be constructed by 2035. The list of development projects is shown in **Table 9.**

The vehicle trip generation for the approved and anticipated development to 2035 was estimated using average trip generation rates and trip generation equations for the proposed land uses from ITE's *Trip Generation* (9th Edition), and, where available, the Transportation Impact Analyses prepared for specific developments. The total trip generation of the approved and anticipated development is estimated at 3,860 AM peak hour trips and 7,053 PM peak hour trips in 2035. The appendix contains the detailed trip generation calculations.

Traffic generated by the approved and anticipated development was assigned to the roadway network based on trip distribution information derived from the MCAG Travel Demand Model. Specifically, several 'select zone' runs were used to determine the general distribution of traffic from residential and commercial traffic analysis zones; these distribution patterns were then manually applied to the approved/anticipated development traffic, using the manual traffic assignment software Vistro. Trip distribution patterns based on the land use type and location within in the City are presented in **Table 10.** The appendix contains detailed information on the trip assignment process.

Table 9: Approved/Anticipated Development to 2035

Site No.	Project Name	Size	Units
1	Bellevue Ranch West Village 12	15.7	KSF
2	Regency Court Apartments	6.4	KSF
3	Compass Pointe II Apartments	87	Rooms
4	Mansionette Estates Unit 5	12	KSF
5	University Village Merced Annexation	178	DU
6	University Village Merced Annexation	523	KSF
7	Bianchi/Norcal Cajun Annexation	15	KSF

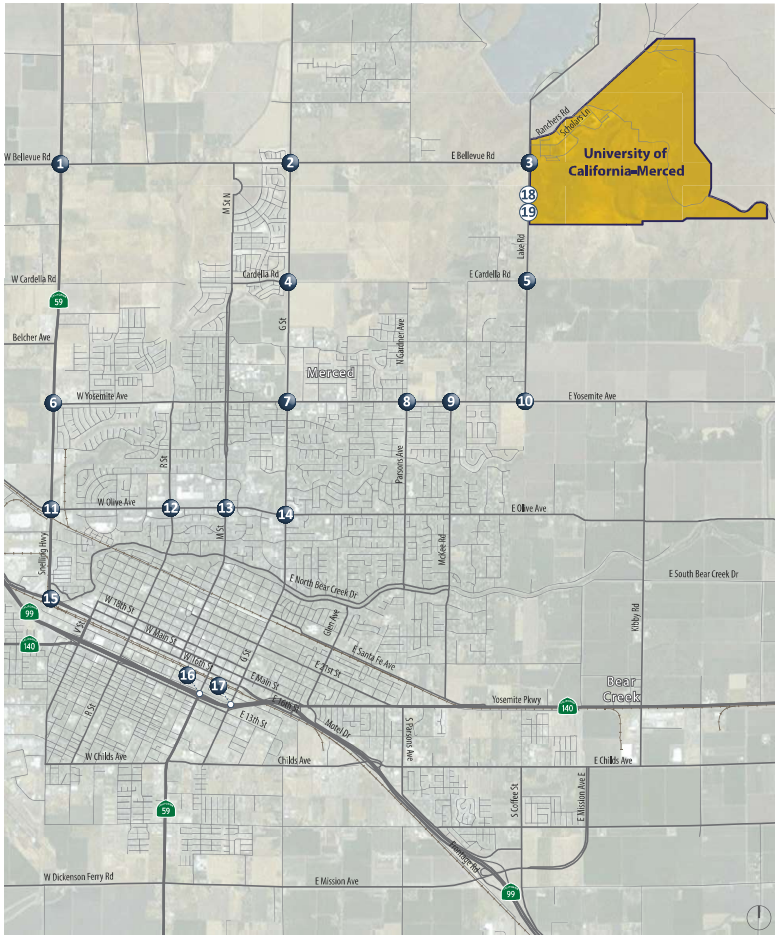
Table 9: Approved/Anticipated Development to 2035

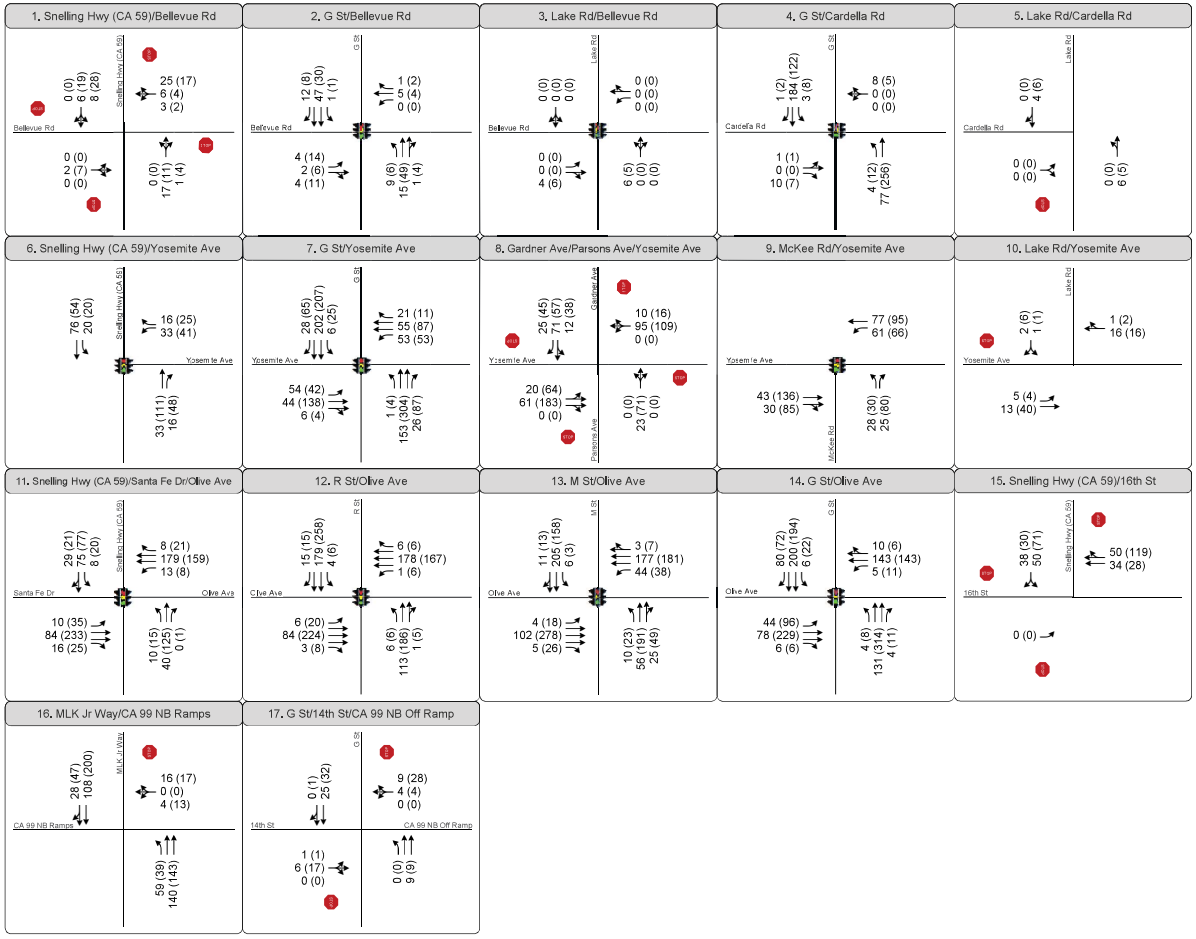
Site No.	Project Name	Size	Units
8	Yosemite & McKee Commercial Center	11.2	KSF
9	University Village Merced - Lake ("Merced Station")	100	Rooms
10	University Village Merced - Lake ("Merced Station")	74	KSF
11	Prime Shine	21	KSF
12	Pro Lube	65	DU
13	Gas Station/Conv. Market/Car Wash - Carol Ave	134	DU
14	Towne Place Suites	100	DU
15	Childs and Parsons (Old Bowling Alley)	67	DU
16	Merced Gateway Center	61	DU
17	Merced Gateway Center	60	DU
18	Super Shop	58	DU
19	Mainzer Theater	134	DU
20	El Capitan Hotel	27	KSF
21	El Capitan Hotel (retail)	66.45	KSF
22	Advanced Chemical Transportation (ACT)	48	KSF
23	Bellevue Ranch East Village 15 (Remaining Lots)	7	Screens
24	Bellevue Ranch East Village 7 (Remaining Lots)	50	KSF
25	Bellevue Ranch East Lot Q (Remaining Lots)	160	DU
26	Bellevue Ranch West Village 1	100	DU
27	Campus Vista Unit 2 (Remaining Lots)	71	DU
28	Lantana Estates South (Phase 1)	37	DU
29	The Meadows Subdivision (Remaining Lots)	125	DU
30	Mission Ranch (Remaining Lots)	44	DU
31	Golden Valley Health Centers (Part of Northview)	48	DU
31	Northview Medical Offices	249	DU
32	PG&E Regional Utility Center	101	DU
32	Merced Mall Expansion	144	DU
33	Merced Mall Expansion	101	DU
34	Stoneridge South Subdivision	47	DU
35	Stoneridge South Subdivision	293	DU
36	Bellevue Ranch East Village 16 (Remaining Lots)	127	DU
37	Bellevue Ranch East Village 8 (Remaining Lots)	25	DU
38	University Park II, Phase 2 Subdivision (Remaining Lots)	300	Emp
39	Sierra Vista Units 2 and 3 (Remaining Lots)	15.7	KSF

Table 9: Approved/Anticipated Development to 2035

Site No.	Project Name	Size	Units
40	Bellevue Ranch East Village 14 (Remaining Lots)	6.4	KSF
41	Moraga Subdivision Phase 1 (Remaining Lots)	87	Rooms
42	Cypress Terrace East (Remaining Lots)	12	KSF
43	Sandcastle Phase 2 & 3 Subdivision (Remaining Lots)	178	DU
44	Cypress Terrace East Phase 4 (Remaining Lots)	523	KSF
45	Tuscany East Subdivision (Remaining Lots)	15	KSF
46	Shadow Creek at Compass Point (Remaining Lots)	11.2	KSF

Notes:
1. A map of the locations of these projects is included in the Technical Appendix.
Source: City of Merced and Merced County, May 2018.





Source: City of Merced and Merced County. 2030 growth projections were derived from 2035 projections, using a straight-line assumption, by Fehr & Peers.

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

Stop Sign

Project Site

Study Intersection

Figure 8

2030 Approved/Anticipated Development Trip Assignment

CITY OF MERCED
PLANNING & PERMITTING DIVISION

TYPE OF PROPOSAL: Zone Change #431 and Tentative Subdivision Map #1323

INITIAL STUDY: #22-32

DATE RECEIVED: December 7, 2022 (date application determined to be complete)

LOCATION: 385 S. Coffee Street

ASSESSOR'S PARCEL NUMBERS: 061-260-026

(SEE ATTACHED MAP AT ATTACHMENTS A)

Please forward any written comments by September 23, 2021 to:

Francisco Mendoza-Gonzalez, Associate Planner
City of Merced Planning & Permitting Division
678 West 18th Street
Merced, CA 95340
209-385-6929
mendozaf@cityofmerced.org

Applicant Contact Information:

Attn: Sam Sahota
23455 Prado De Los Peras
Calabasas, CA 91302
(213) 500-0860
Sahota03@hotmail.com

PROJECT DESCRIPTION

The Project site consists of an approximate 10-acre parcel (APN: 061-261-025) located at 385 S. Coffee Street (Attachment B), generally located on the west side of S. Coffee Street, 300 feet north of E. Gerard Avenue. The subject site has a Zoning classification of Urban Transition (U-T) and a General Plan designation of Low Density Residential (LD). The subject site is generally surrounded by single-family homes and agricultural uses.

The applicant would like to develop a single-family subdivision, for a total of 45 residential lots with two lots for a tot lot and a basin lot. The current zoning designation of Urban Transition is intended for agricultural uses that were permitted when this property was in County jurisdiction prior to being annexed into the City in 2007. The parcels would remain independent, with vehicle access from the extension of Capella Drive out to S. Coffee Street and other local and arterial roads.

Project Location

The subject site is located within the southeastern quadrant of Merced. The subject site is surrounded by residential uses to the south, east, and west. The surrounding uses include single-family homes, with the lots to the south being residential but not part of a subdivision development. The properties to the north are within an Urban Transition (U-T) Zone, and are being used for agricultural purposes. The table below identifies the surrounding uses:

Table 1 Surrounding Uses (Refer to Attachment A)

Surrounding Land	Existing Use of Land	Zoning Designation	City General Plan Land Use Designation
North	Agriculture	Low Density Residential (R-1-5)	Low Density Residential (LD)
South	Single-Family Homes	Urban Transition (U-T)	Low Density Residential (LD)
East	Single-Family Subdivision (S. Coffee Street)	Low Density Residential (R-1-6)	Low Density Residential (LD)
West	Single-Family Subdivision	Residential Planned Development (R-P-D) #39	Low Density Residential (LD)

1. INITIAL FINDINGS

A. The proposal is a project as defined by CEQA Guidelines Section 15378.

B. The Project is not a ministerial or emergency project as defined under CEQA Guidelines (Sections 15369 and 15369).

C. The Project is therefore discretionary and subject to CEQA (Section 15357).

D. The Project is not Categorically Exempt.

E. The Project is not Statutorily Exempt.

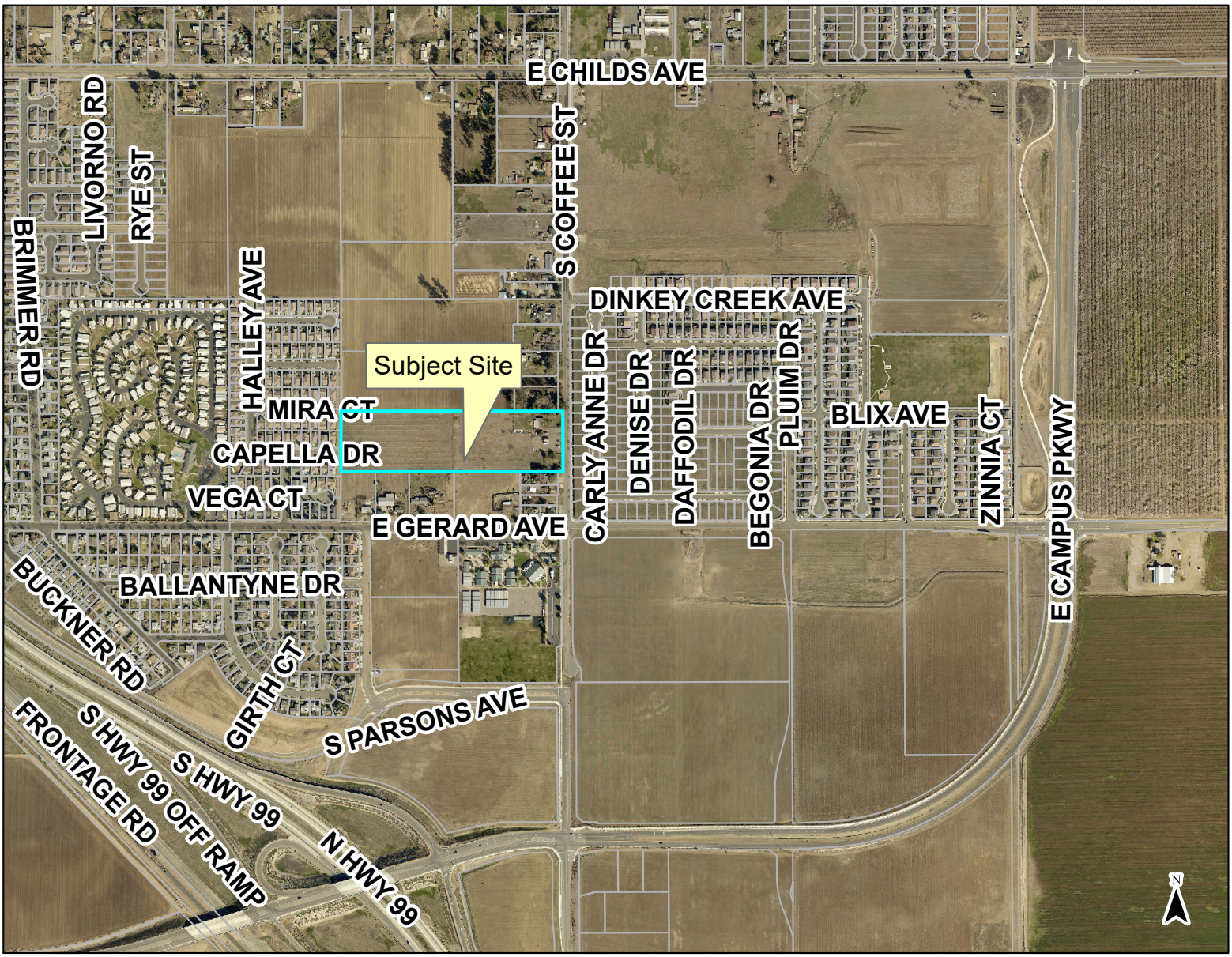
F. Therefore, an Environmental Checklist has been required and filed.

2. CHECKLIST FINDINGS

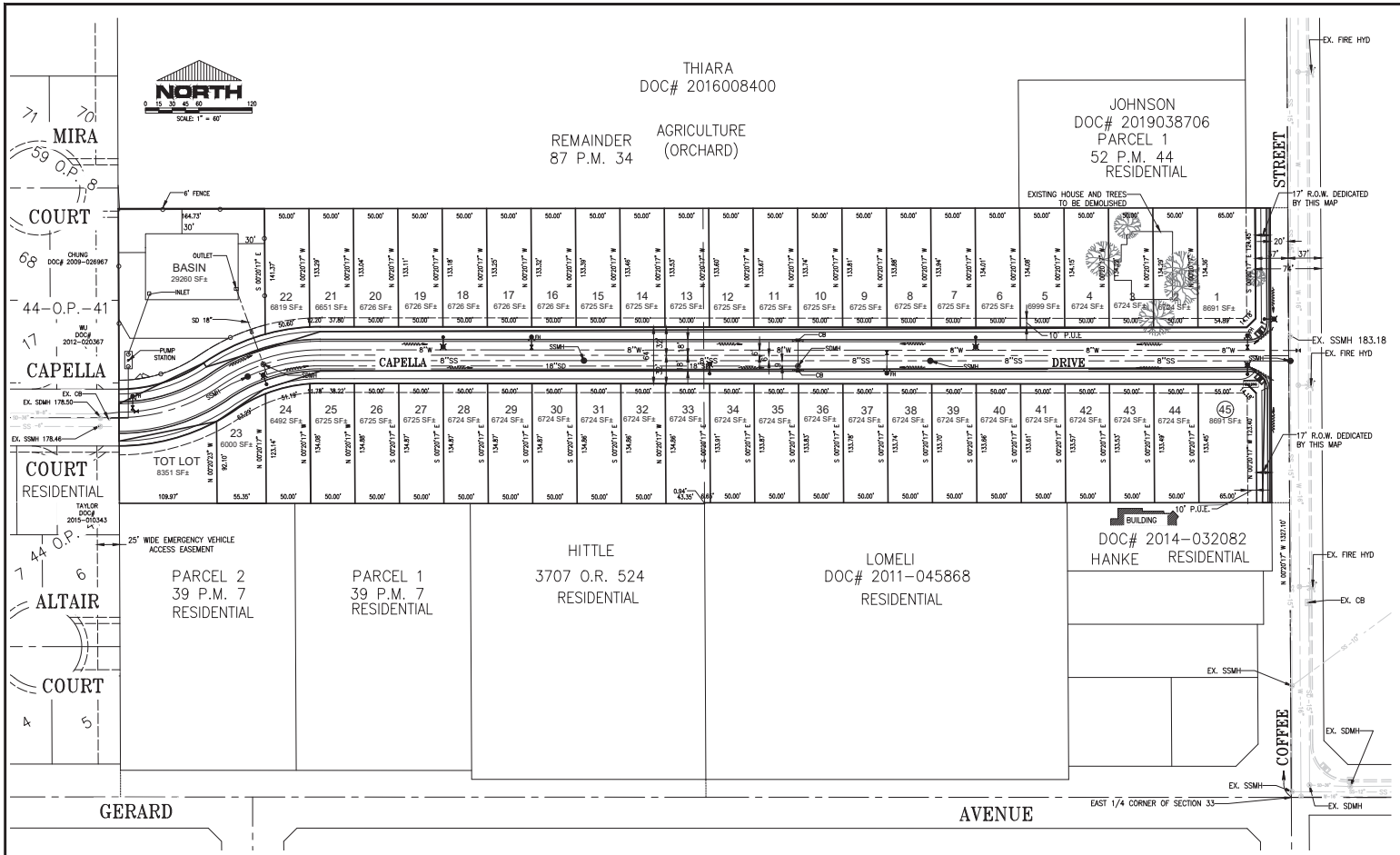
A. An on-site inspection was made by this reviewer on October 25, 2022.

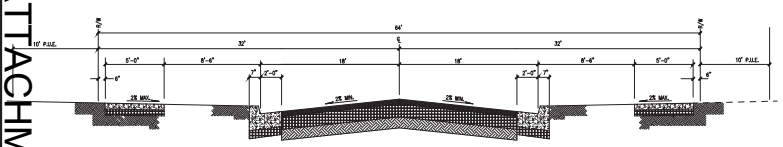
B. The checklist was prepared on November 7, 2022.

C. The *Merced Vision 2030 General Plan* and its associated Environmental Impact Report [EIR (SCH# 2008071069)] were certified in January 2012. The document comprehensively examined the potential environmental impacts that may occur as a result of build-out of the 28,576-acre Merced (SUDP/SOI). For those significant environmental impacts (Loss of Agricultural Soils and Air Quality) for which no



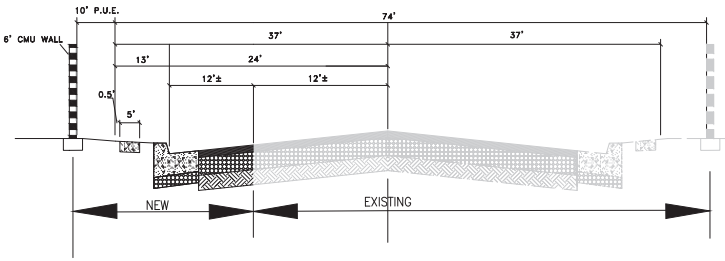
ATTACHMENT A





64 FT. RIGHT OF WAY
ROADWAY W/ VERTICAL CURB & GUTTER

CAPELLA DRIVE

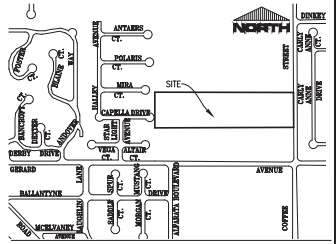


74 FT. RIGHT OF WAY
ROADWAY W/ VERTICAL CURB & GUTTER

COFFEE STREET

ATTACHMENT B

LOCATION MAP:



TENTATIVE MAP NOTES:

INFORMATION REQUIRED PER MERCED MUNICIPAL CODE SECTION 18.16.080

1. LOCATION MAP AS SHOWN HEREON.
2. TRACT NAME, DATE, NORTH ARROW, SCALE AND LEGAL DESCRIPTION AS SHOWN HEREON.
3. OWNER: FORTIS GENERAL CONSTRUCTION
   C/O SAM SAHOTA
   25455 PRADO DE LOS PERAS
   CALABASAS, CA, 91302
4. SUBDIVIDER: SAME AS ABOVE.
5. MAP PREPARED BY: GOLDEN VALLEY ENGINEERING & SURVEYING, INC.
   405 W. 19TH STREET
   MERCED, CA, 95340
   (209) 722-3200
6. ACREAGE APPROXIMATELY: 9.91 ACRES
7. CONTOURS SHOWN ON TOPOGRAPHIC SHEET.
8. LOCATIONS, NAMES, WIDTHS, RADII OF CURVES AND GRADES OF ALL EXISTING AND PROPOSED ROADS, STREETS IN AND ADJACENT TO THE PROPOSED SUBDIVISION AS SHOWN.
9. NO PROTECTIVE COVENANTS PROPOSED AT THIS TIME, PROTECTIVE COVENANTS TO BE RECORDED WITH FINAL MAP, IF ANY.
10. LOCATION AND DESCRIPTION OF ALL EASEMENTS AS SHOWN HEREON. TEN FOOT PUBLIC FACILITY EASEMENTS TO BE PROVIDED ALONG ALL LOT FRONTAGES.
11. LOCATION AND SIZE OF ALL EXISTING AND PROPOSED PUBLIC UTILITIES AS SHOWN HEREON.
12. SEWAGE DISPOSAL BY CITY OF MERCED FACILITIES, STORM WATER DISPOSAL BY EXISTING SYSTEM TO CITY OF MERCED FACILITIES ADJACENT TO PROJECT SITE.
13. PUBLIC OPEN SPACE EXISTS WITHIN OR ADJACENT TO THE PROPOSED SUBDIVISION.
14. LOT LAYOUT, APPROXIMATE DIMENSIONS AND AREA OF EACH IRREGULAR LOT AND LOT NUMBERS AS SHOWN.
15. CITY LIMITS LINES AS SHOWN.
16. EXISTING LAND USE: RESIDENTIAL U-T
    PROPOSED LAND USE: R1-6
    DENSITY: 4.54 UNIT/A-C
17. APPROXIMATE BEARINGS AND DISTANCES TO THE NEAREST 1/4 SECTION CORNER AS SHOWN HEREON.
18. PROPOSED PUBLIC IMPROVEMENTS PER CITY STANDARDS.
19. DEVELOPMENT PHASE: THE DEVELOPER RESERVES THE RIGHT TO PHASE THIS PROJECT IN ACCORDANCE WITH THE PROVISIONS OF THE STATE SUBDIVISION MAP ACT.
20. EXISTING USE AND AND OWNERSHIP OF LAND IMMEDIATELY ADJACENT TO SUBDIVISION AS SHOWN HEREON.
21. PRELIMINARY TITLE REPORT TO BE SUBMITTED WITH TENTATIVE MAP.
22. EXISTING BUILDINGS WITHIN SUBDIVISION AS SHOWN. (TO BE DEMOLISHED)
23. EXISTING TRESS WITHIN SUBDIVISION AS SHOWN. (TO BE DEMOLISHED)
24. PROJECT IS IN FLOOD ZONE "AO", FLOOD DEPTHS OF 1 TO 3 FEET AVERAGE DEPTHS DERERMINED. FOR AREAS OF ALLUVIAL FAN FLOODING VELOCITIES ALSO DETERMINED. AREAS DETERMINED BY FEMA SUBJECT TO 1% ANNUAL FLOOD CHANCE, MAPS NO. 06047C0445G
    MAP REVISED: DECEMBER 2, 2008.

DESCRIPTION:

BEING A PROPOSED SUBDIVISION OF ALL THAT PORTION OF LOTS 163 AND 165, ACCORDING TO MAP ENTITLED, "MERCED COLONY", RECORDED FEBRUARY 3, 1910 IN VOL. 4 OF OFFICIAL PLATS, PAGE 24, MERCED COUNTY RECORDS, DESCRIBED AS FOLLOWS, TO WIT:

THE NORTH ONE-HALF OF LOT 165 AND ALL THAT PORTION OF LOT 163 LYING SOUTH OF THE WESTERLY PROJECTION OF THE NORTH LINE OF SAID LOT 165 TO ITS POINT OF INTERSECTION WITH THE WEST LINE OF SAID LOT 13.

EXCEPTING THEREFROM THE SOUTH 5 ACRES OF LOT 163, THE SOUTH LINE OF SAID 5 ACRES BEING THE CENTER LINE OF AVENUE SHOWN AS LOT J ON SAID MAP OF MERCED COLONY.

LEGEND

SL	PROPOSED STREET LIGHT	8"W	PROPOSED WATER MAIN
CO	PROPOSED SEWER CLEAN OUT	8"SS	PROPOSED SANITARY SEWER MAIN
BO	PROPOSED WATER BLOW OFF	8"SD	PROPOSED STORM DRAIN MAIN
FH	PROPOSED FIRE HYDRANT	SDMH	PROPOSED STORM DRAIN MH
	EXISTING WATER VALVE	SSMH	PROPOSED SANITARY SEWER MH
	EXISTING FIRE HYDRANT		PROPOSED WATER VALVE
	EXISTING STREET LIGHT		PROPOSED CATCH BASIN
SS	EXISTING SEWER		PROPOSED WHEEL CHAIR RAMP
SD	EXISTING STORM DRAIN	P.U.E.	PUBLIC UTILITY EASEMENT
W	EXISTING WATER		DRAINAGE FLOW DIRECTION

These drawings are instruments of service and are the property of Golden Valley Engineering & Surveying, Inc. All designs and other information on these drawings are for use on the specified project and shall not be used otherwise without the express written permission of Golden Valley Engineering & Surveying, Inc.

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PREPARED BY:

GOLDEN VALLEY
ENGINEERING & SURVEYING
405 West 19th Street
Merced, CA 95340
P.O. Box 349
Merced, CA 95341
Ph.: (209) 722-3200
Fax: (209) 722-3254

No.	Date	Description

It is the duties responsibility prior to or during construction to notify the designer in writing of any potential errors or omissions in the plans and specifications of which a contractor is aware and which a contractor could reasonably be expected to be aware. Written notification ultimately must precede verbal notice and be received from the designer prior to the start or shade construction proceeding with the work. The owner of record is responsible for any defects in construction if these provisions are not followed.

VESTING TENTATIVE MAP FOR
CAPELLA TERRACE
385 SOUTH COFFEE STREET, MERCED, CA
061-261-026-000
CITY OF MERCED, MERCED COUNTY CALIFORNIA

SHEET CONTENTS:
VESTING TENTATIVE MAP
TOPOGRAPHIC SURVEY

PREPARED FOR:
FORTIS GENERAL
CONSTRUCITON, SAM SAHOTA
25455 PRADO DE LOS PERAS,
CALABASAS, CA 91302

PROJECT DATA:
Date: 06/20/22
Checked By: JX
Drawn By: JJ
Job. No.: 22037

SHEET NUMBER:
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APPENDIX A

October 19, 2022
File No. 01222246.00

Sam Sahota
8499 Monte Cristo Avenue
Livingston, CA 95334
209-394-7986
Sahota03@hotmail.com

Subject: **Air Quality (AQ), Vehicle Miles Traveled (VMT), and Greenhouse Gas (GHG) Analyses for the Capella Terrace Land Use Project Located in Merced, Merced County, California**

Dear Mr. Sahota:

Mr. Sam Sahota has requested **SCS Engineers (SCS)** to provide an AQ, GHG, and VMT analyses for submittal to the City of Merced, California. It is our understanding that the Capella Terrace Project (project) is required by the City of Merced (City) to analyze the projects impact on air quality, GHG, and VMT; therefore, SCS provides Capella Terrace with the following letter.

PROJECT BACKGROUND

SCS understand Capella Terrace is developing a 9.91-acre subdivision project located at 385 South Coffee Street, Merced, CA. The subdivision is approximately 45 lots ranges between 6,726 to 8,691 square feet.

The proposed project will consist of a constructing a single-family residential subdivision. The City is requesting that a AQ, GHG, and VMT analyses be performed.

AIR QUALITY

REGULATORY CONTEXT

Ambient Air Quality Standards

Under the California Clean Air Act (CAA) establishes maximum ambient concentrations for the ten criteria air pollutants (CAPs), known as the California Ambient Air Quality Standards (CAAQS). The six CAPs are ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb), particulate matter 10 and 2.5 microns in size (PM_{10} and $PM_{2.5}$), hydrogen sulfide, sulfates, visibility reducing particles, and vinyl chloride. Concentrations above these time-averaged limits are anticipated to cause adverse health effects to sensitive receptors. **Table 1** shows the standards for the various averaging times for criteria pollutants under the CAAQS. The San Juaquin Valley Air Basin (SJVAB) is in nonattainment for the following CAAQS criteria pollutants: ozone, PM_{10}, $PM_{2.5}$.

ATTACHMENT C

TABLE 1
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Standard
		parts per million or microgram per cubic meter
		CAAQS
Ozone	1 hour	0.09
	8 hour	0.070
CO	8 hour	9
	1 hour	20
NO_2	Annual Mean	0.03
	1 hour	0.18
SO_2	24 hour	0.04
	3 hour	N/A
	1 hour	0.25
PM_{10}	Annual Mean	(20)
	24 hour	(50)
$PM_{2.5}$	Annual arithmetic mean	(12)
	24 hour	N/A
Pb	Rolling 3-Moth Average	N/A
	30 Days	(1.5)
Hydrogen Sulfide	1 hour	0.03
Vinyl Chloride	24 hour	0.01
Sulfate	24 hour	(25)
Visibility Reducing Particles	8 hour	extinction of 0.23 per km

California State Implementation Plan (SIP)

California's SIP is comprised of the State's overall air quality attainment plans to meet the NAAQS as well as the individual air quality attainment plans of each Air Quality Management District (AQMD) and Air Pollution Control District (APCD). The items included in the California SIP are listed in 40 CFR Chapter I, Part 52, Subpart F §52.220. The California SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), AQMD and APCD rules, State regulations, and federal controls for each air basin and California's overall air quality. Many of the items within the California SIP rely on the same control strategies, such as emissions standards for cars and heavy trucks, fuel regulations, and limitations on emissions from consumer products. AQMDs and APCDs, as well as other agencies such as the Bureau of Automotive Repair, prepare draft California SIP elements and submit them to CARB for review and approval. The California CAA identifies California Air Resource Board (CARB) as the lead agency for compiling items for incorporation into the California SIP, and submitting the items to the CalEPA for approval. San Juaquin Valley Air Basin (SJVAB) is in nonattainment for ozone, PM_{10}, $PM_{2.5}$ and have approved SIPs.

San Joaquin Valley Air Pollution Control District (SJVAPCD)

The SJVAPCD is a regional agency which regulates stationary sources of air pollution within the SJVAB whose boundaries are contiguous with the County's boundaries. Its primary purpose is to enforce local, state, and federal air quality regulations in order to satisfy ambient air quality standards and protect the public from harm due to poor air quality. The SJVAPCD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review activities. Additionally, the SJVAPCD regulates open and agricultural burning and is responsible for air quality monitoring, preparing clean air plans, and responding to citizen complaints regarding air quality.

All projects in Merced County and in the community of Merced are subject to applicable SJVAPCD rules and regulations in effect at the time of construction and operation. The SJVAPCD has adopted air quality thresholds for determination of impact significance for projects subject to CEQA review. Air quality significance criteria is provided in Table 2.

TABLE 2
AIR QUALITY THREHOLDS OF SIGNIFICANCE – CRITERIA POLLUTANTS

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Permitted Equipment and Activities
	Tons/Year		
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM10	15	15	15
PM2.5	15	15	15

SJVAPCD, AQ Thresholds of Significance – Criteria Pollutants (March 19, 2015)

Methodology

The Proposed Project's short-term construction-related criteria pollutant emissions were estimated using California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The CalEEMod used default values for construction and operational emissions estimate. Because the City does not provide criteria pollutant emission thresholds, estimated project-related criteria pollutant emissions were compared to the SJVAPCD construction and operational criteria pollutant significant criteria shown in Table 2.

Merced County is classified as nonattainment under the CAAQS for ozone, PM_{10}, and $PM_{2.5}$; therefore, an applicable SIP or other applicable air quality plans have been developed and approved by the State of California. The SJVAPCD has developed significance criteria for criteria air pollutants as shown in Table 2, if the project's emission do not exceed the significance criteria then the project is considered to have a less than significant impact on air quality.

Construction

Construction of the project would require demolition, site preparation, grading, building/infrastructure, paving and architectural coating. As shown in Table 3 construction criteria emission would not exceed the SJVAPCD significance criteria. **Less than Significant.**

TABLE 3
MAXIMUM ANNUAL CONSTRUCTION EMISSIONS

Pollutant/Precursor	Construction Emissions	Significant Criteria	Exceed Significant
	Tons/Year		
CO	1.66	100	No
NOx	1.59	10	No
ROG	0.83	10	No
SOx	.003	27	No
Total PM10	0.26	15	No
Total PM2.5	0.16	15	No

Operation

Operation of the project would emit criteria pollution from area, energy, mobile, stationary, waste, and water sources. Table 4 shows the emissions from the operation of the project with 45 single family homes. As shown in Table 4 project emission would not exceed the SJVAPCD significance threshold. Therefore, operation of the project would not adversely impact regional air quality**. Less than Significant.**

TABLE 4
MAXIMUM ANNUAL OPERATIONAL EMISSIONS

Pollutant/Precursor	Construction Emissions	Significant Criteria	Exceed Significant
	Tons/Year		
CO	2.46	100	No
NOx	0.59	10	No
ROG	0.63	10	No
SOx	0.01	27	No
Total PM10	0.47	15	No
Total PM2.5	0.14	15	No

Cumulative Impacts

Although SJVAPCD does not have any quantitative cumulative significant criteria, air quality is cumulative in nature. CAAQS are predicated on past, present, and future emissions; therefore, if project-related

emission are found to have a less-than-significant impact in the near-term conditions, then cumulative impacts would also be less-than-significant. Project-related air quality impacts were found to be less-than-significant in the near-term conditions; therefore, the project would not adversely affect regional air quality in the future**. Less than Significant.**

GREENHOUSE GAS EMISSIONS

CLIMATE CHANGE

Global climate change is a change in the average weather of the Earth, which can be measured by wind patterns, storms, precipitation, and temperature. It is exacerbated by GHGs, which trap heat in the atmosphere (called the "greenhouse" effect). GHGs include carbon dioxide, methane, and nitrous oxide, and are emitted by natural processes and human activities. Potential adverse effects of global climate change include a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels, and changes to ecosystems and the natural environment.

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

REGULATORY CONTEXT

The City of Merced has developed and approved a Climate Action Plan (October 1, 2012). The City of Merced Climate Action Plan provides strategies for reduction of GHG emissions. The SJVAPC Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (December 17, 2009) provides guidance for addressing GHG analysis and implements a 29 percent reduction in project GHG emissions.

METHODOLOGY

The Proposed Project's short-term construction-related GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The CalEEMod used default values for construction and operational emissions estimate.

SIGNIFICANCE CRITERIA

The Climate Action Plan provides strategies and actions for new developments in Part 4: Climate Action Plan Strategies and Actions. Consistence with the Climate action Plan strategies and action would show the project would not significantly increase GHG emissions in the future. The SJVAPCD criteria is to reduce GHG emission by 29 percent over business-as-usual.

Construction GHG Emissions

Construction of the project would emit GHGs during the operation of heavy equipment. **Table 5** provides an estimate of project related GHG emissions per construction year. Detailed calculations are provided in **Appendix A**.

TABLE 5
CONSTRUCTION RELATED GHG EMISSIONS

Construction Year	CO_2e Emissions
	MT/year
2023	264.77
2024	131.69
Maximum Year Emissions	**264.77**

Operational GHG Emissions

Operation of the project would emit GHGs from area, energy, mobile, stationary, waste, and water sources. **Table 5** provides an estimate of project related GHG emissions per construction year. Detailed calculations are provided in **Appendix A**.

TABLE 5
ESTIMATION OF PROJECT RELATED GHG EMISSIONS

Operation	CO_2e Emissions
	MT/year
Total GHG Emissions	652

Project's Consistency with City's Climate Action Plan

The greatest source of GHG emissions emitted from the project is from mobile sources (refer to Appendix A). It is important that the project be consistent with reduced VMT and strategy provided in the Climate Action Plan. As shown below, in the Vehicle Miles Traveled section the location and connectivity of the project would reduce the overall VMT and therefore, reduce GHG emissions. It is anticipated that the location of the project would reduce residential VMT by greater than 50 percent (refer to Vehicle Miles Traveled Section). Table 6 shows GHG emissions based on the reduction of VMT estimated in Vehicle Miles Traveled Section, as shown emissions are reduced by 39 percent, CalEEMod output files are provided in Appendix B.

TABLE 6
REDUCED VMT RELATED GHG EMISSIONS

Operation	CO_2e Emissions
	MT/year
Total GHG Emissions	396

The project is also consistent with the City's Climate Action Plan, Strategy EM 1.5 Mobility Development Review Polices due to the project's connectivity with the adjacent neighborhoods, nearby transit stops on Gerard Avenue (Route M5 – Merced South-East), and schools which reduce mobile GHG emissions.

The project would not create any significant new sources of GHG emissions and would comply with the City's Climate Action Plan and SJVAPCD emissions reduction requirements; therefore, the project would not contribute to adverse impacts associated with cumulative GHG emissions. **Less than Significant.**

VEHICLE MILES TRAVELED

Regulatory Context

Pursuant to Senate Bill 743 (passed in 2013), the metric for analyzing transportation impacts under the California Environmental Quality Act (CEQA) officially changed over on July 1, 2020 from level of service to VMT. The 2030 City of Merced General Plan identifies the improvement project and strategies that have and will assist the City of Merced in reducing it vehicles miles traveled.

Vehicle Miles Traveled Analysis

Calculation of VMT shown in the CalEEMod output files in Appendix A, Section 4.0 Operational Detail – Mobile, 4.2 Trip Summary Information shows that the project's annual VMT is 1,222.52 miles. This is unmitigated VMT and does not show reduction for location of the project to transportation, schools, connectivity, employment centers, and shopping.

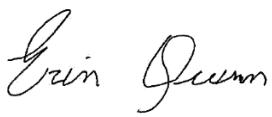
The project is located within one mile of the E Garard Avenue bus stop, and the bus route currently passes between East Childs and East Garard Avenues via South Coffee Street (M-5 Merced South-East bus route), which will provide the entrance to the project. The project is located within 0.1 miles of the Pioneer Elementary School less than a mile from Golden Valley High School and Joe Herb Park, and is adjacent to an existing single-family residential subdivisions. The project would be connected to the adjacent subdivision via roadway with sidewalks, which would provide easy access to transport and other amenities. The project is located within 3.5 miles of the city center where the majority of employers are located. Shopping centers and markets are located throughout Merced, within a distance of three miles from the project site.

The CalEEMod trip generation (Institute of Transportation Engineers (ITE), *Trip Generation Manual, 10th Edition*) provides for trip lengths of for home to work as 10.8-mile, home to shop as 7.3-miles, and home to other (schools, recreation) as 7.5-miles. As shown above the distance to from home to work, home to shopping, and home to schools is less than half these default distance provided by the ITE; therefore, given the location of the project, it is expected to reduce VMT by more 50 percent. **Less than Significant.**

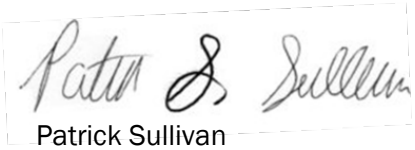
CONCLUSION

Implementation of the project would not result in result in a significant regional AQ impacts, a significant increase in GHG emissions, and would comply with VMT criteria within the City.

Sincerely,



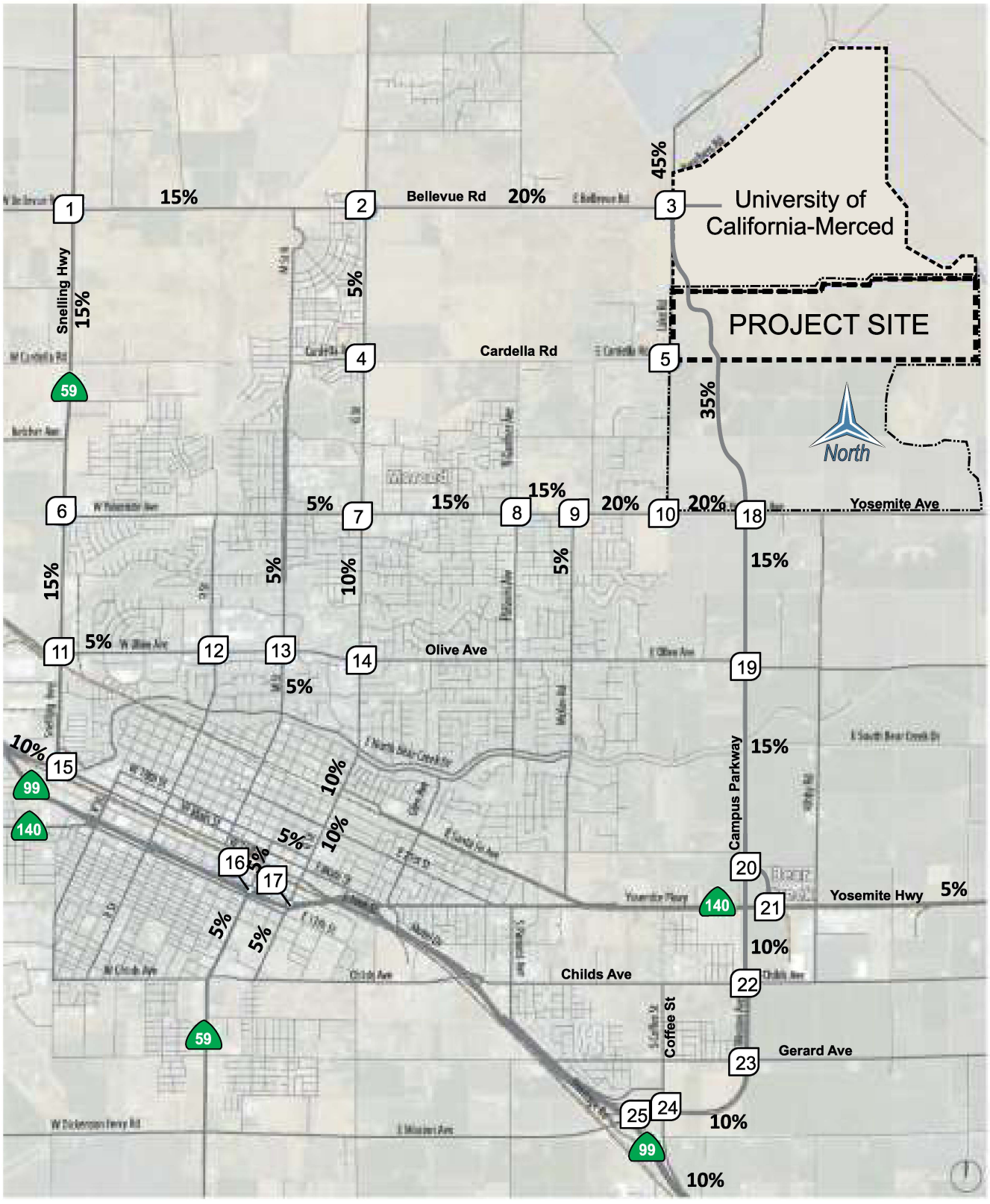
Erin Quinn
Project Director
SCS Engineers



Patrick Sullivan
Senior Vice President
SCS Engineers

VST Specific Plan
2042 Horizon Year Trip Distribution

Figure 4-2



LEGEND

- Project Site
- Existing or Planned Roadway
- # Study Intersection
- XX% Trip Distribution
- University Community Plan Area

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TABLE 4-1

Project Trip Generation - Buildout

LAND USE	Quantity	DAILY TRIP ENDS (ADT)		WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
R-1 Residential (220)	1,298 D.U.	7.32	9,502	0.42	23:77	125	420	545	0.45	63:37	365	214	579
R-4 Student Residential (225)	894 D.U.	4.12	3,684	0.17	28:72	43	109	152	0.31	52:48	145	133	278
R-2, R-3, & R-4 Market (220)	1,617 D.U.	7.32	11,837	0.42	23:77	155	517	672	0.44	63:37	444	260	704
Town Center Mixed Use (231)	108 D.U.	3.44	372	0.30	28:72	9	23	32	0.36	70:30	27	12	39
Retail Mixed (875)	307,500 s.f	22.88	7,036	0.58	64:36	114	64	178	1.95	50:50	300	300	600
NC/Retail and Community Commercial (875)	279,500 s.f	22.88	6,395	0.58	64:36	104	59	163	1.95	50:50	273	273	546
Hotel/Office (710)	275,000 s.f	9.74	2,679	1.16	86:14	274	45	319	1.08	16:84	48	250	298
Elementary School (520)	600 Students	1.89	1,134	0.67	54:46	217	185	402	0.17	48:52	49	53	102
Parks (411)	67.74 acres	1.95	132	0.02	59:41	1	1	2	0.40	55:45	15	12	27
SUBTOTAL TRIP GENERATION			**42,771**			**1,042**	**1,423**	**2,465**			**1,666**	**1,507**	**3173**
Internal Trips (NCHRP Internal Trip Capture Estimation Tool)[1]			**11,498**			**350**	**318**	**668**			**426**	**427**	**853**
Internal Bike Trips (20%)			**2,300**			**70**	**64**	**134**			**85**	**85**	**171**
Internal Pedestrian Trips (10%)			**1,150**			**35**	**32**	**67**			**43**	**43**	**85**
Internal Vehicle Trips (70%)			**8,049**			**245**	**223**	**468**			**298**	**299**	**597**
Bike Trips (20%)			**6,255**			**138**	**221**	**359**			**248**	**216**	**464**
Pedestrian Trips (10%)			**3,127**			**69**	**111**	**180**			**124**	**108**	**232**
Transit Trips (5%)			**1,564**			**35**	**55**	**90**			**62**	**54**	**116**
TOTAL EXTERNAL VEHICLE TRIP GENERATION			**20,327**			**450**	**718**	**1,168**			**806**	**702**	**1,508**
Pass-By Trips (5%)			**1,016**			**22**	**36**	**58**			**40**	**35**	**75**
TOTAL EXTERNAL TRIP GENERATION			**19,311**			**428**	**682**	**1,110**			**766**	**667**	**1,433**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.

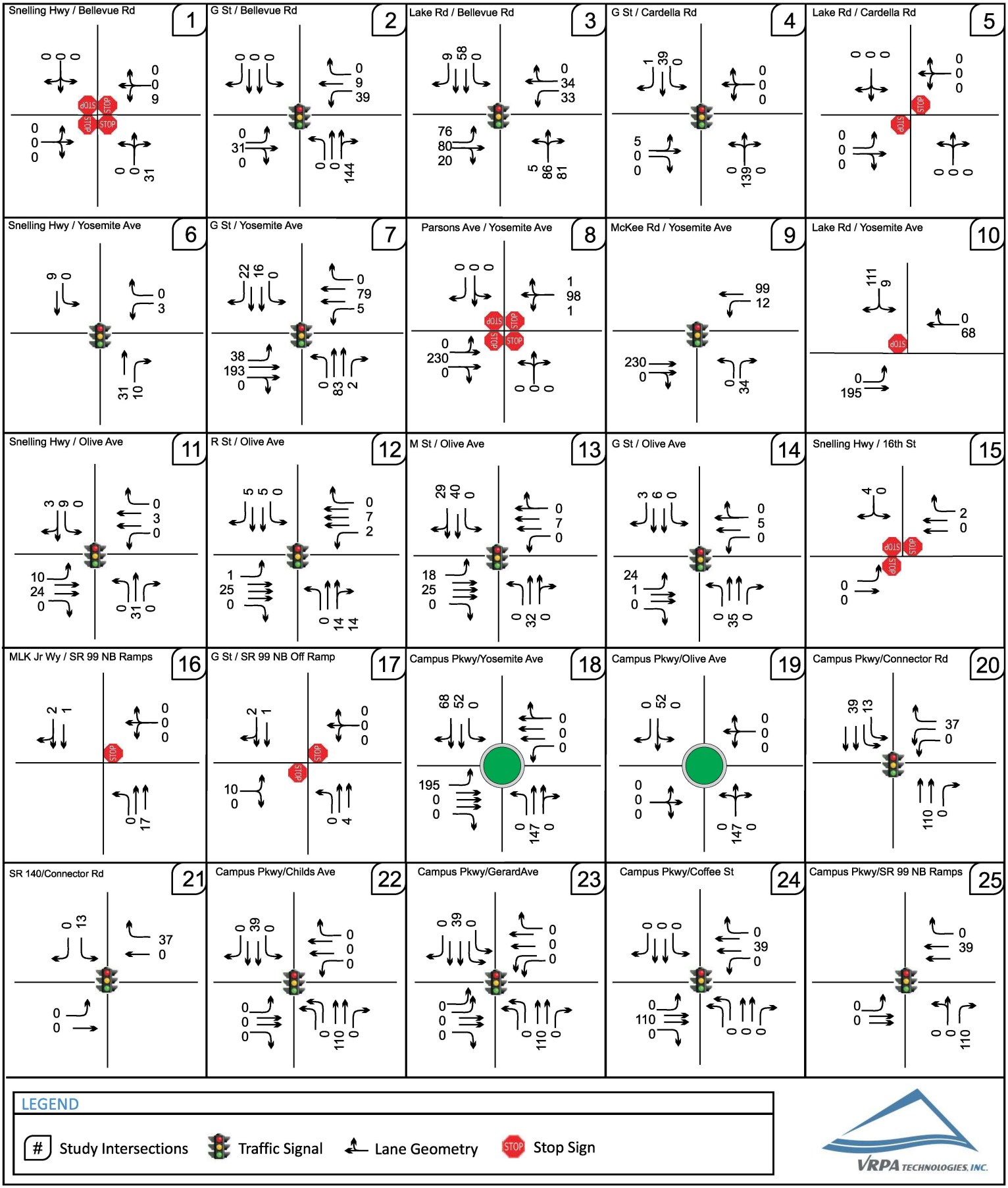
Trip ends are one-way traffic movements, entering or leaving.

The numbers in parenthesis are ITE land use codes.

1. Daily internal trip capture rate basued upon PM peak results from the NCHRP Internal Trip Capture Estimation Tool. 90% of trips associated with the elementary school were assumed to be internal trips since the school will serve residents of the VST site. 100% of Park trips are internal trips.

VST Specific Plan
LRDP Project AM Peak Hour Traffic - Horizon Year (2042)

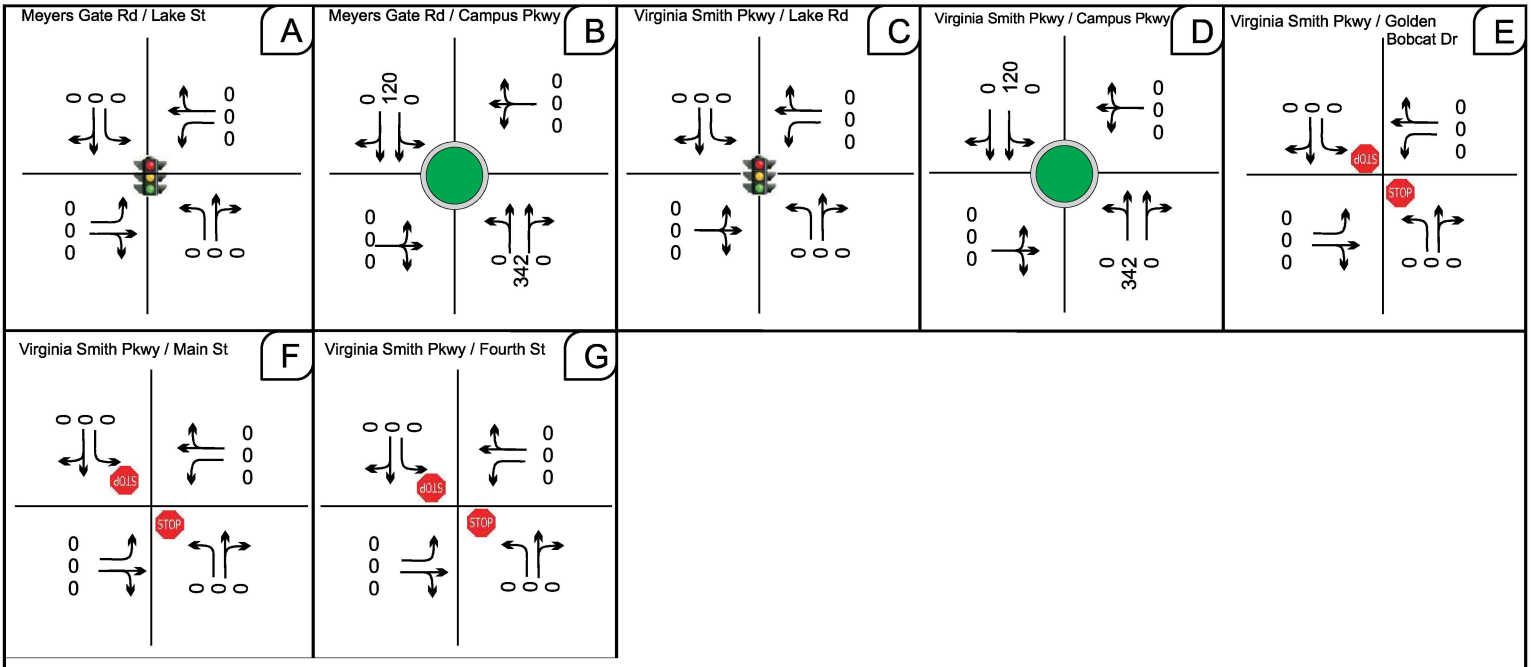
Figure E-1a



VST Specific Plan

LRDP Project AM Peak Hour Traffic - Horizon Year (2042)

Figure E-1b



LEGEND

Study Intersections | Traffic Signal | Lane Geometry | STOP Stop Sign

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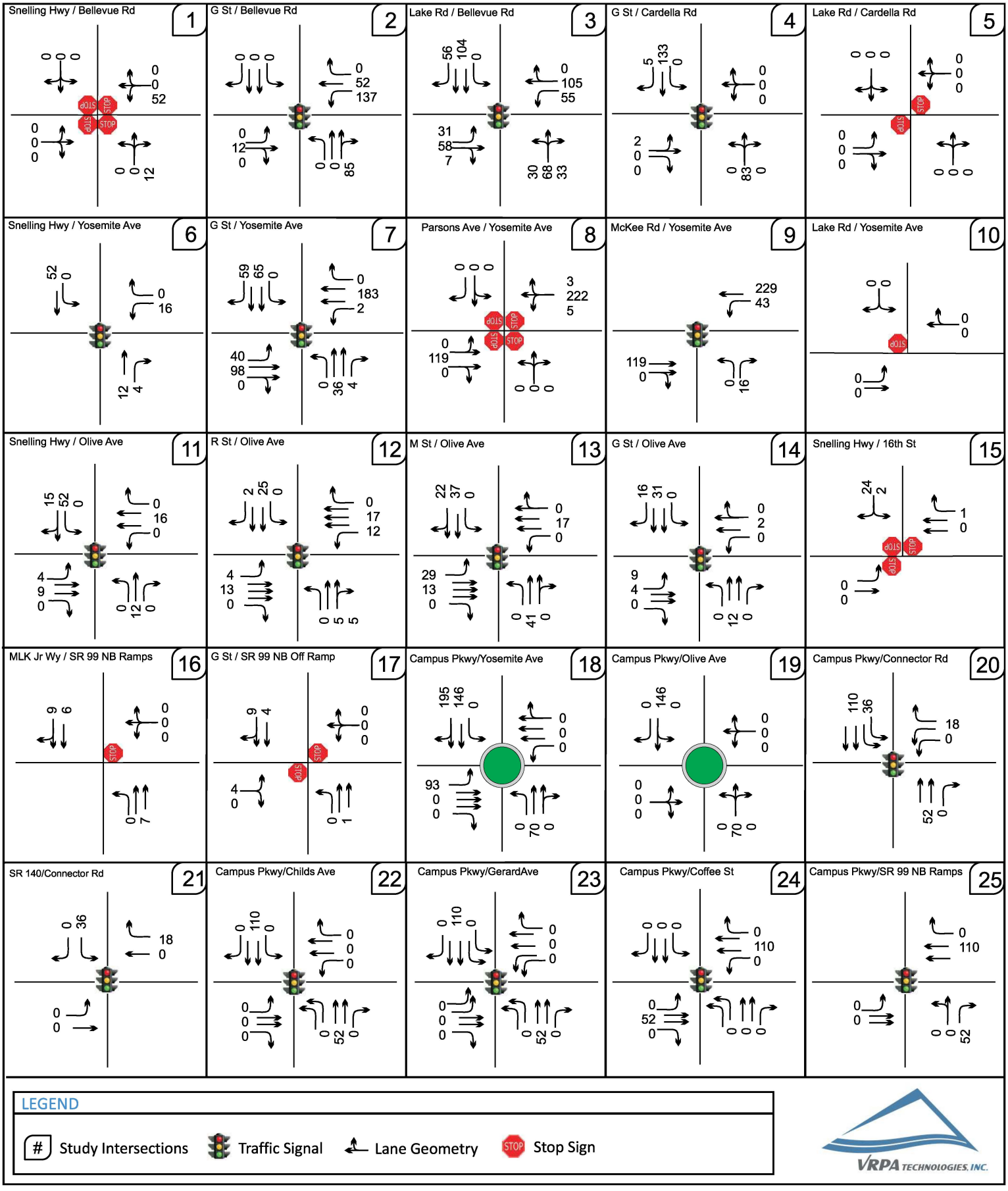
VST Specific Plan
LRDP Project PM Peak Hour Traffic - Horizon Year (2042)

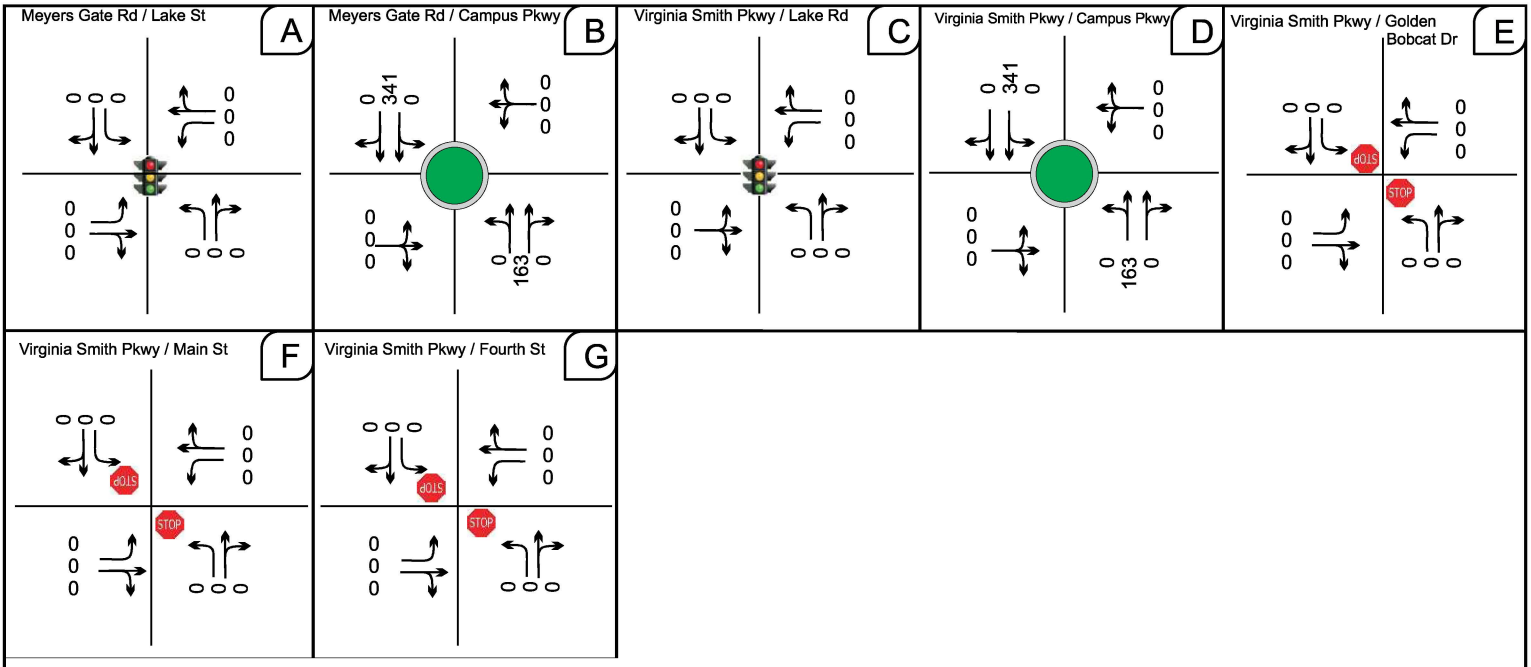
Figure E-2a



VST Specific Plan

LRDP Project PM Peak Hour Traffic - Horizon Year (2042)

Figure E-2b



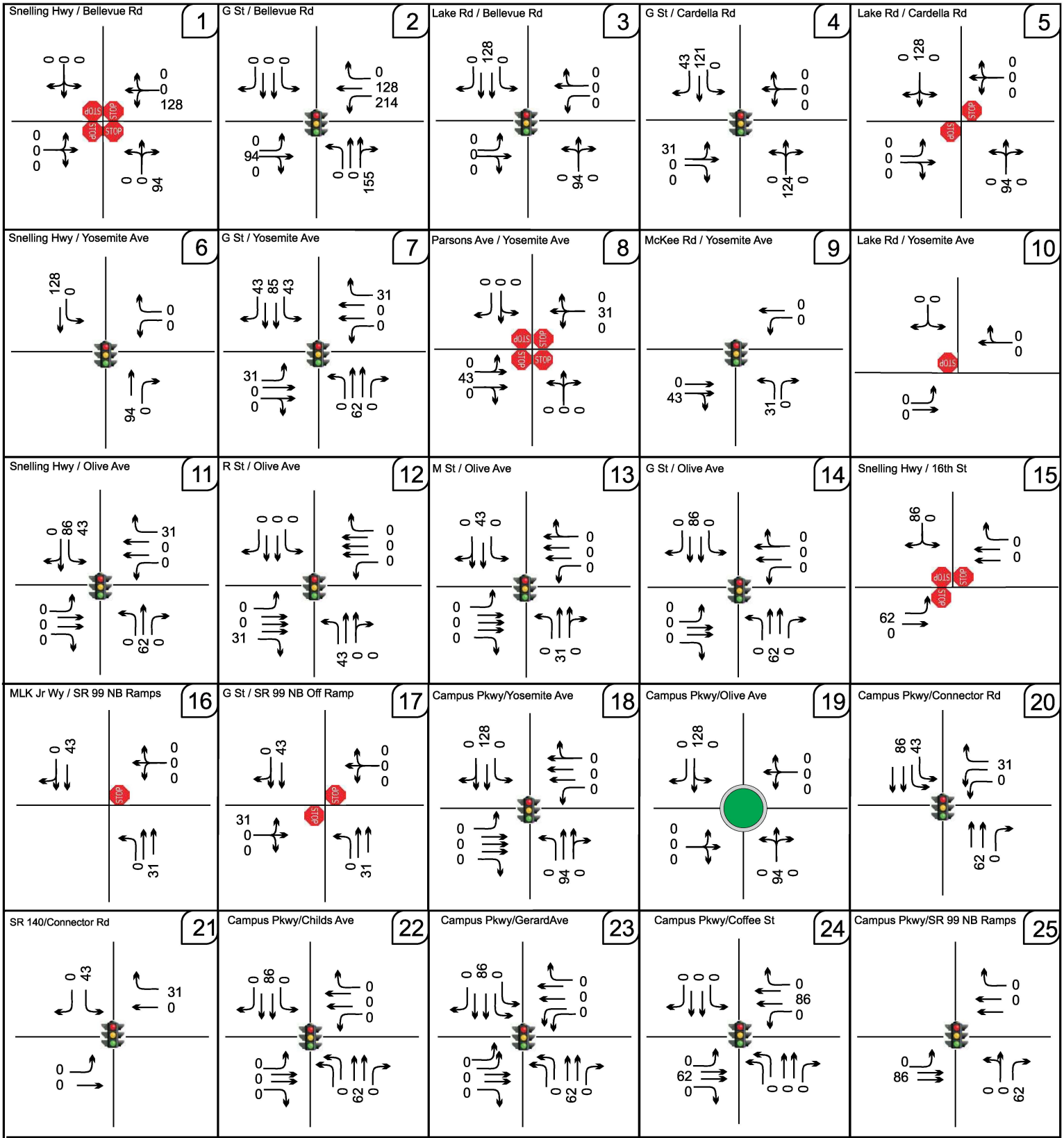
LEGEND

Study Intersections | Traffic Signal | Lane Geometry | STOP Stop Sign

VRPA TECHNOLOGIES, INC.

VST Specific Plan
University Vista Project AM Peak Hour Traffic - Horizon Year (2042)

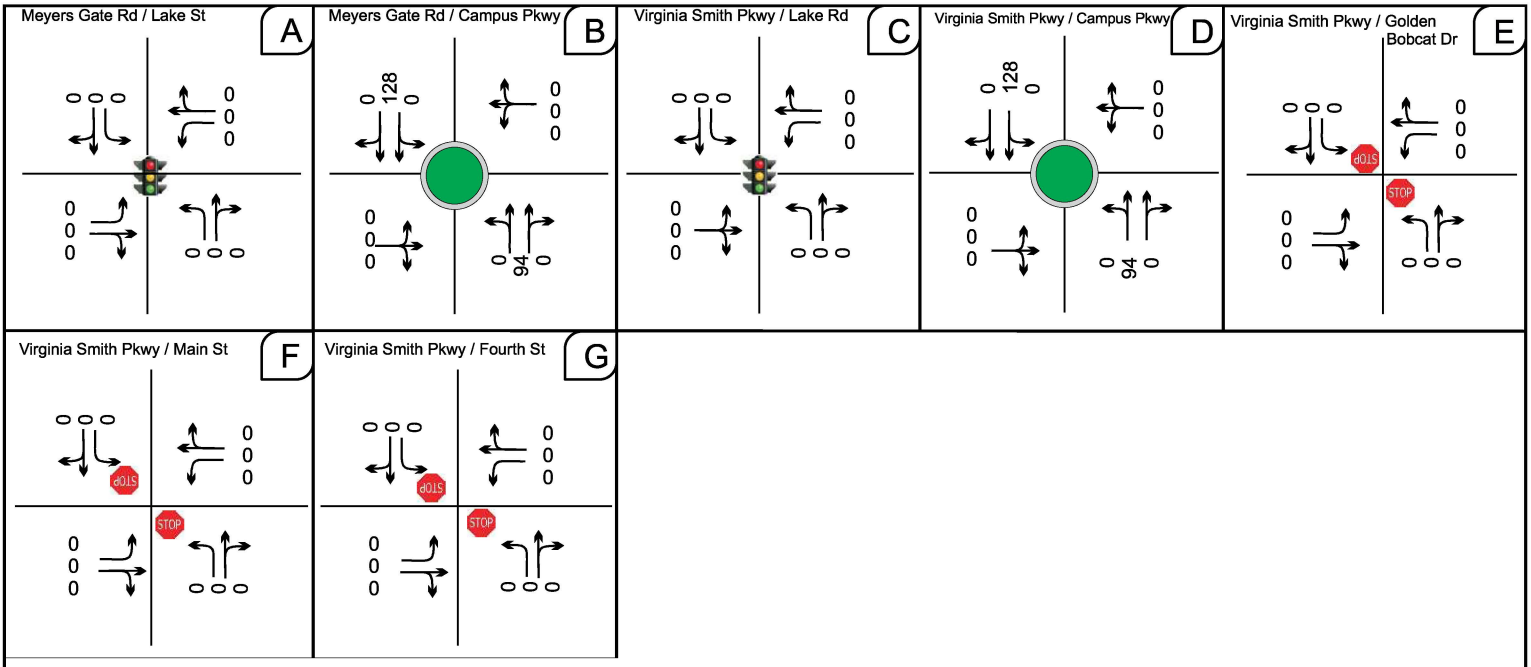
Figure E-5a



VST Specific Plan

University Vista Project AM Peak Hour Traffic - Horizon Year (2042)

Figure E-5b



LEGEND

Study Intersections | Traffic Signal | Lane Geometry | STOP Stop Sign

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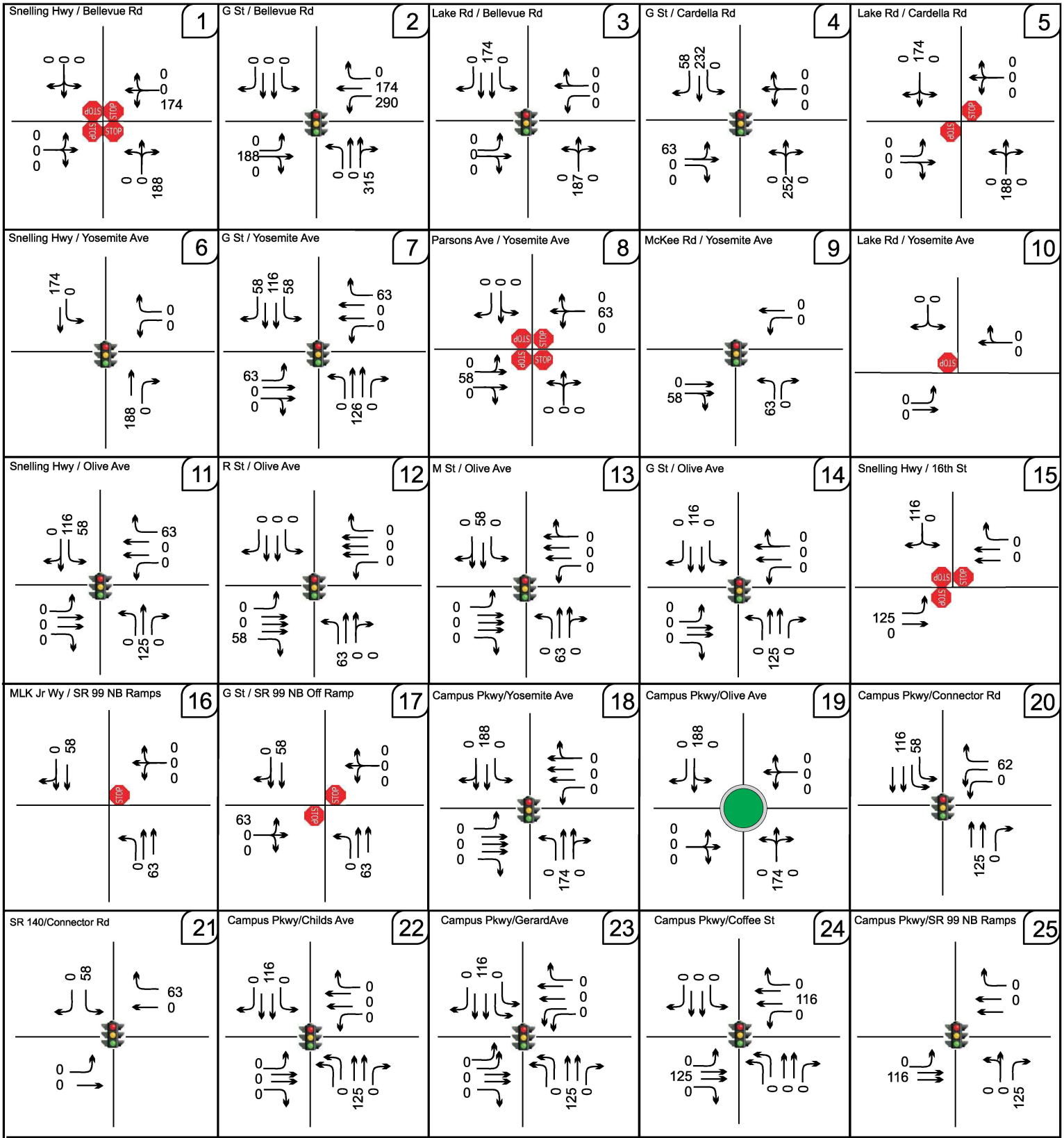
VST Specific Plan
University Vista Project PM Peak Hour Traffic - Horizon Year (2042)

Figure E-6a



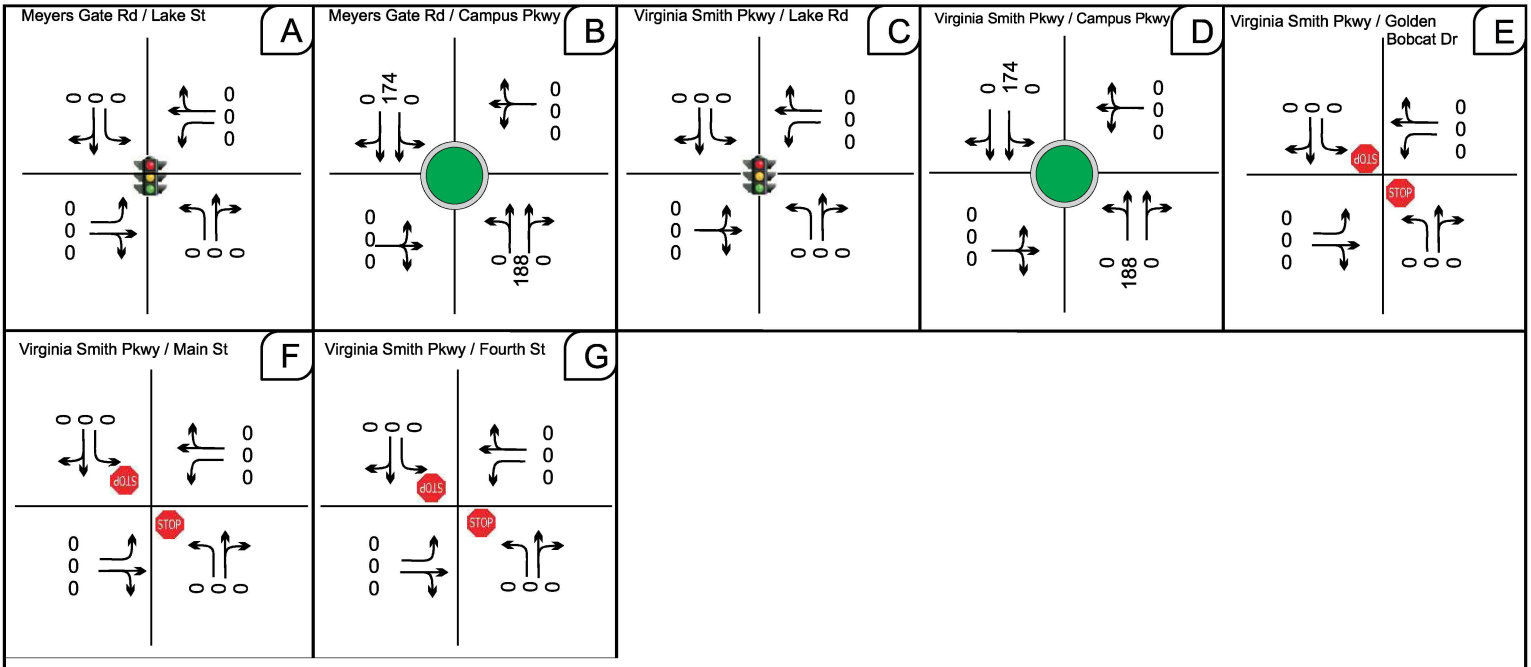
LEGEND

Study Intersections | Traffic Signal | Lane Geometry | STOP Stop Sign

VRPA TECHNOLOGIES, INC.

VST Specific Plan
University Vista Project PM Peak Hour Traffic - Horizon Year (2042)

Figure E-6b



LEGEND

Study Intersections | Traffic Signal | Lane Geometry | STOP Stop Sign

VRPA TECHNOLOGIES, INC.