

City of Fresno

Vesting Tentative Tract Map No. 6195

Draft Environmental Impact Report
State Clearinghouse No. 2021060089

City of Fresno, California
February 2022

Prepared for:
City of Fresno
California



Prepared by:
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Acronyms and Abbreviations

AB	Assembly Bill
ABM	Activity-Based Model
ATP	Active Transportation Plan
CFD	(City of Fresno) Community Facilities District
CDFW	California Fish and Wildlife
CEQA	California Environmental Quality Act
City	City of Fresno
CLG	Certified Local Government
CNEL	Community Noise Equivalent Level
COG	(Fresno) Council of Governments
CRHR	California Register of Historical Resources
dBA	A Weighted Decibels
dB	Decibels
DEIR	Draft Environmental Impact Report
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEIR	Final Environmental Impact Report
FTA	Federal Transit Administration
GHG	Greenhouse Gas
Ldn	Day/Night Average Sound Level
Lmax	Maximum Sound Level
LOS	Level of Service
MMRP	Mitigation Monitoring and Reporting Program
MLD	Most Likely Descendant
MRZ	Mineral Resource Zones
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NOC	Notice of Completion
NOP	Notice of Preparation
NOS	Notice of Scoping
NPS	National Park Service
OHP	Office of Historic Preservation

PG&E.....	Pacific Gas & Electric Company
PRC	Public Resources Code
Project.....	Vesting Tentative Tract Map No. 6195
Reclamation.....	United States Bureau of Reclamation
ROG.....	Reactive Organic Gases
SB	Senate Bill
SCH	State Clearinghouse
SHPO.....	(California) State Historic Preservation Officer
SJVAPCD.....	San Joaquin Valley Air Pollution Control District
SOx	Sulfur Oxide
STC	Sound Transmission Class
USEPA	United States Environmental Protection Agency
USFWS.....	United States Fish and Wildlife Service
USGS	United States Geological Survey
VdB	Weighted Decibel
VMT.....	Vehicle Miles Traveled

Executive Summary

ES.1 Introduction

The City of Fresno (City) has prepared this Draft Environmental Impact Report (DEIR) for the proposed Vesting Tentative Tract Map No. 6195 (Project) in compliance with the California Environmental Quality Act (CEQA).

ES.2 Objectives for the Project

- Provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area;
- Provide a sense of community and walkability within the development through the use of street patterns, parks/open space areas, landscaping and other Project amenities;
- Create a successful and financially feasible Project by meeting the housing needs of the area;
- Provide a residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.

ES.3 Project and Alternatives Summary

The Project consists of Plan Amendment Application No. P20-04463, Rezone Application No. P20-04463, and Vesting Tentative Tract Map No. 6195/UGM (P18-00579) and pertains to ±17.58 acres of property, located on the west side of the northern terminus of North Thiele Avenue (the subject property; Assessor Parcel Nos. 504-050-02 and 504-130-12).

Alternatives Considered but Rejected include the following:

- Reduced Footprint (89 units on 50% of lot)
- Increased Density (210 units on 50% of lot)

This DEIR also considers the No Project Alternative, under which the land will retain its current land use and zoning, and no portion will be developed into a single-family residential development.

ES.4 Public Involvement Process

The development of the DEIR is designed to involve the public in the decision-making process. The CEQA process requires open discussions to determine the scope of a proposed Project and environmental topics of potential concern. The following sections identify the public processes that have been undertaken for the proposed Project.

ES.4.1 Notice of Preparation of the Draft EIR

The City of Fresno's Notice of Preparation (NOP) comment period began on June 4, 2021, and ended on July 6, 2021, a duration of 30 days. ([Appendix A](#)). The NOP was combined with a Notice of Scoping (NOS). The NOP/NOS had multiple purposes: to inform public agencies and the general public of the Project scoping process; to solicit comments to assist the City in determining environmental impacts related to the proposed

Alternatives; and to identify potential feasible and reasonable mitigation for such impacts that should be considered in this EIR. The NOP/NOS was sent via USPS mail to a number of local, State, and federal agencies; to interest groups; and to owners and residents of property within 1,000 feet of the proposed Project. The NOP/NOS was filed with the State Clearinghouse (SCH) on June 4, 2021, and was assigned SCH 2021060089. The NOP/NOS was also published in *The Fresno Bee* on June 4, 2021.

ES.4.2 Notice of Completion of the Draft EIR and Public Review Period

Upon completion of the DEIR, a Notice of Completion (NOC) for the DEIR was filed with the SCH and the Fresno County Clerk and mailed to interested public agencies and individuals on February 18, 2022, to initiate a 45-day DEIR public and State review period. The review period runs from February 18, 2022, through April 4, 2022. Comments should be submitted to the City prior to the end of the comment period and should be in writing if possible. Comments should be directed to:

City of Fresno
Attn: Robert Holt
2600 Fresno Street, Room 3043
Fresno, CA 93721

or

Email: Robert.Holt@fresno.gov

Additional copies of this DEIR are available for review for the following locations:

City of Fresno website at <https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-15>

Fig Garden Regional Library
3071 West Bullard Avenue
Fresno, CA 93711
(559) 600-4071

ES.5 Summary of Impacts

The DEIR has identified potentially significant adverse environmental impacts requiring mitigation measures in the areas of Geology and Soils, Noise, Transportation, and Tribal Cultural Resources. For all other environmental topics, either no impacts were identified, or impacts were determined to be less than significant. **Table ES-1** below provides a summary of the proposed Project's potential environmental effects, each impact's level of potential significance, and for potentially significant adverse impacts, mitigation measures to avoid or reduce the impact to a less than significant level or to the greatest degree feasible. After mitigation measures are identified, the DEIR indicates the remaining level of impact following incorporation of mitigation. The identified levels of significance assume implementation of all permit and approval requirements of federal, State, and local law and regulations applicable to the proposed Project, standard conditions of approval, and construction best management practices.

ES.6 Impacts Not Further Considered in this DEIR

As discussed in **Appendix A**, Initial Study/Notice of Preparation, and Public Comments, the project was determined to have no impact or a less than significant impact regarding the following impact thresholds, Aesthetics, Agriculture, Air Quality, Biological Resources, Cultural Resources, Energy, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral

Resources, Population and Housing, Public Services, Recreation, Utilities and Service Systems, and Wildfire. These impacts are therefore not analyzed in the EIR. A brief summary of these sections is given below.

Aesthetics

Construction of the Project would create a new source of substantial light or glare in the area. However, given that the project is adjacent to an which is developed with urban and single-family residential uses, which already affect day and nighttime views in the project area to a degree equal or greater than the proposed project, no significant impact will occur. Implementation of Mitigation Measures AES-1, AES-2, and AES-3, will ensure that impacts remain less than significant.

Agriculture

The Project site is not located on zoned farmland or timberland, nor would the Project result in the loss of forestland. The Project site is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Air Quality

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and Toxic Air Contaminants such as diesel exhaust particulate matter. Emissions were estimated for the project using the California Emissions Estimator Model Version 2020.4.0, consistent with SJVAPCD recommendations. Emissions do not exceed the SJVAPCD's thresholds for ROG, NO_x, CO, SO_x, PM_{2.5}, or PM₁₀ emissions. The SJVAPCD requires the implementation of Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM₁₀ emissions during the construction period. Implementation of the Regulatory Control Measure AIR-1 would ensure that the proposed project complies with Regulation VIII and ensures the short-term construction period air quality impacts would be less than significant.

Biological Resources

The Project area is highly disturbed non-native grassland/disturbed habitat and conversion of the habitat would not result in any impacts to special status species. Although not currently present the Project area could support burrowing owl nesting (ground nesting raptor) and American badger prior to site development. There is no evidence of occupation by San Joaquin kit fox but the species could establish a den before the site is developed. Implementation of mitigation measures BIO-1, BIO-2, BIO-3, and BIO-4 are recommended to avoid and to reduce any potential impact on special status species during construction to less than significant.

Second, the Project includes a minimum 36-foot-wide trail at the bluff edge located at the north side of the Project area along the San Joaquin River. No other development is proposed within the setback, therefore there is no potential impact on riparian habitat. There are no other sensitive natural communities located within or near the Project area in local, regional plans and there is no designated sensitive habitat identified by the CDFW or USFWS.

Cultural Resources

No prehistoric sites were identified during the field survey conducted by Mike Lawson, Peak & Associates, Inc. and a record search was provided by the Southern San Joaquin Valley Information Center at California State University, Bakersfield. The survey determined there is a possibility that a site may be unearthed during Project activities. The records search determined that there are no recorded prehistorical resources within the Project site. Therefore, with incorporation of CUL-1, impacts to archaeological resources that may potentially exist on site will be less than significant.

There is no evidence or record that the Project has the potential to be an unknown burial site, or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With

incorporation of CUL-2, impacts resulting from the discovery of remains interred on the Project site would be less than significant.

Energy

As construction of the Project will be required to comply with both the California Energy Code, as well as the City of Fresno's Fresno Green Residential Checklist, energy consumption would not be wasteful or inefficient, and would align with state and local goals for renewable energy and energy efficiency.

Greenhouse Gases

Construction and operational emissions are consistent with, and required to conform to, the City's adopted 2014 Greenhouse Gas Reduction Plan.

Hazards and Hazardous Materials

The Project would not create a significant hazard due to release of hazardous materials.

Hydrology and Water Quality

The Project would not substantially decrease groundwater supplies, substantially alter existing drainage patterns, or result in violations of water quality or waste discharge requirements. The Project is not located in a flood zone and does not conflict with any adopted Sustainable Groundwater Plan.

Land Use and Planning

The Project would not physically divide an established community, and would comply with all applicable land use policies and plans adopted for the purpose of mitigating and avoiding environmental effects.

Mineral Resources

The Project is located in an area where minerals are not known to occur, and the Project does not preclude extraction of mineral resources in the San Joaquin River.

Population and Housing

While the Project was not accounted for in the City's General Plan, the amount of growth projected by the Project is not substantial. Furthermore, the Project does not propose to displace any persons, and thus does not require construction of replacement housing elsewhere.

Public Services

The City and all other respective local agencies required to serve the Project have sufficient capacity to do so.

Recreation

The Project proposes a minimum 36-foot wide trail at the San Joaquin River bluff edge, approximately 1.5 acres in area, that connects to the existing trail along the subdivision to the east and creates a stub connection at the western end of the subdivision. Two connection points are proposed, as well as off-street parking. The Parks Master Plan identifies a sufficient amount of regional park space in the area such that redesignating the existing open space to a non-open space use would not reduce planned levels of service to unacceptable levels.

Utilities and Service Systems

The Project has access to a sufficient amount of services to serve the Project in addition to its existing and planned commitments.

Wildfire

The Project site is not located in or near a State Responsibility Area and it is approximately 20 miles southwest of the nearest area classified as a very high fire hazard severity zone, therefore the Project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

Table ES- 1. Summary of Environmental Impacts

Summary of Potential Impact			
Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Aesthetics			
<p>Impact I-d. Development of the site will create a new source of substantial light or glare within the area. However, given that the project site is adjacent to an area which is developed with urban and single-family residential uses, which already affect day and nighttime views in the project area to a degree equal or greater than the proposed project, no significant impact will occur. The proposed recreational trail will not be lit. Due to the layout of the subdivision, the back yards of residential lots will abut the trail, therefore residential homes would likely reduce the amount of streetlighting spilled onto the bluffs. Implementation of Mitigation Measures AES-1, AES-2, AES-5, will ensure that impacts remain less than significant.</p>	Potentially Significant Impact	AES-1, AES-2, AES-5	Less than Significant
Air Quality			
<p>Impact III-b. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NOx, ROG, directly-emitted particulate matter (PM2.5 and PM10), and Toxic Air Contaminants such as diesel exhaust particulate matter.</p> <p>Construction emissions were estimated for the project using the California Emissions Estimator Model Version 2020.4.0, consistent with SJVAPCD recommendations. Construction emissions associated with the project would not exceed the SJVAPCD's thresholds for ROG, NOx, CO, SOx, PM2.5, or PM10 emissions.</p> <p>The SJVAPCD requires the implementation of Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM10 emissions during the construction period.</p>	Potentially Significant Impact	AIR-1	Less than Significant Impact

Summary of Potential Impact			
Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Implementation of the Regulatory Control Measure AIR-1 would ensure that the proposed project complies with Regulation VIII and ensures the short-term construction period air quality impacts would be less than significant.			
Biological Resources			
Impact IV-a. The Project area is highly disturbed non-native grassland/disturbed habitat and conversion of the habitat would not result in any impacts to special status species. However, although not currently present the Project area could support burrowing owl nesting (ground nesting raptor) and American badger prior to site development. There is no evidence of occupation by San Joaquin kit fox but the species could establish a den before the site is developed. Implementation of mitigation measures BIO-1, BIO-2, BIO-3, and BIO-4 are recommended to avoid and to reduce any potential impact on special status species during construction to less than significant.	Potentially Significant Impact	BIO-1, BIO-2, BIO-3, BIO-4	Less than Significant Impact
Impact IV-b. The Project includes a minimum 36-foot wide trail at the bluff edge located at the north side of the Project area along the San Joaquin River. No other development is proposed within the setback, therefore there is no potential impact on riparian habitat. There are no other sensitive natural communities located within or near the Project area in local, regional plans and there is no designated sensitive habitat identified by the CDFW or USFWS.	Potentially Significant Impact	BIO-5	Less than Significant Impact
Cultural Resources			
Impact V-b. Field surveys were conducted by Mike Lawson, Peak & Associates, Inc. and a record search was provided by the Southern San Joaquin Valley Information Center at California State University, Bakersfield. No prehistoric sites were identified during the field survey. The survey determined there is a possibility that a site may be unearthed during Project activities. The records search determined that there are no recorded prehistorical resources within the Project	Potentially Significant Impact	CUL-1	Less than Significant Impact

Summary of Potential Impact			
Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
site. Therefore, with incorporation of CUL-1, impacts to archaeological resources that may potentially exist on site will be less than significant.			
Impact V-c. There is no evidence or record that the Project has the potential to be an unknown burial site, or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of CUL-2, impacts resulting from the discovery of remains interred on the Project site would be less than significant.	Potentially Significant Impact	CUL-2	Less than Significant Impact
Geology and Soils			
Impact VII-c. The Project is required to construct a trail along the bluff that would be required to support the weight of a 25,000-pound fire apparatus, which could cause collapse of the bluff. Compliance with the recommendations of the Geotechnical Engineering Investigation, GEO-1, would ensure impacts remain less than significant.	Potentially Significant Impact	GEO-1	Less than Significant Impact
Transportation			
Impact XVI-b. The proposed project will generate automobile Vehicle Miles Traveled that exceed City of Fresno standards.	Potentially Significant	TRA-1, TRA-2	Significant and Unavoidable
Tribal Cultural Resources			
Impact XVII-a-i. Notification of the Project was sent to California Native American tribes listed on the California Native American Heritage Commission (NAHC) list on August 29, 2018, and June 1, 2021. Pursuant to AB 52 and SB 18, the tribes have 30 and 90 days, respectively, to request consultation to disclose, with the lead agency, any potential areas of concern. Although the Cultural Resource field surveys for the Project did not find any evidence of resources deemed of cultural value to a California Native American tribe, Table Mountain Rancheria provided responses on December 11, 2018 and August 25, 2021. As a result of this consultation, CUL-2 and TCR-1 will ensure impacts to tribal cultural resources remain less than significant.	Potentially Significant Impact	TCR-1	Less than Significant Impact

Summary of Potential Impact			
Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Impact XVII-a-ii. Pursuant to AB 52 and SB 18, the California Native American tribes listed on the California Native American Heritage Commission (NAHC) list were notified of the Project. The tribes were notified on August 29, 2018, and June 1, 2021. The tribes have 30 days in accordance with AB 52 and 90 days in accordance with SB 18 to request consultation to disclose, with the lead agency, any potential areas of concern. Although the Cultural Resource field surveys for the Project did not find any evidence of tribal cultural resources, responses were received from Table Mountain Rancheria on both December 11, 2018 and August 25, 2021. As a result of this consultation, CUL-2 and TCR-1 discussed above will ensure impacts to tribal cultural resources remain less than significant.</p>	<p>Potentially Significant Impact</p>	<p>TCR-1</p>	<p>Less than Significant Impact</p>

1 Introduction

1.1 Purpose of the EIR

This DEIR is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the implementation of the proposed Project. This document is prepared in conformance with CEQA (California Public Resources Code, Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15000, et seq.).

The purpose of this DEIR is to inform decision-makers, representatives of affected or responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the proposed Project. This DEIR describes potential impacts relating to a wide variety of environmental issues and along with methods by which these impacts can be mitigated or avoided.

This summary is provided in accordance with the CEQA Guidelines Section 15123. As stated in CEQA Guidelines Section 15123(a), “an environmental impact report (EIR) shall contain a brief summary of the proposed actions and its [sic] consequences. The language of the summary should be as clear and simple as reasonably practical.” As required by the Guidelines, this DEIR includes (1) a summary description of the proposed project; (2) a discussion of the areas of controversy associated with the project; (3) identification of the alternatives evaluated and the environmentally superior alternative; and (4) a synopsis of environmental impacts and recommended mitigation measures.

1.2 Content of the EIR

The City has prepared this DEIR for the proposed Project in compliance with CEQA. This DEIR fully evaluates the potential direct, indirect, and cumulative environmental impacts associated with the Project (as further described within) for a residential subdivision, as well as a No Project Alternative.

Specific areas of analysis will include Geology and Soils, Noise, Transportation and Traffic, and Tribal Cultural Resources (as of the release date of the Notice of Preparation/Notice of Scoping, June 4, 2021). Additionally, a consideration of cumulative impacts is included.

1.3 Organization of the EIR

Executive Summary: Summarizes the content and determinations of this DEIR

Chapter 1 – Introduction: Explains the purpose of an EIR, its content, and the environmental review process.

Chapter 2 –Project Description: Includes a detailed description of the proposed Project.

Chapter 3 – Impact Analysis: Includes analysis of each of the topical areas consistent with Appendix G.

Chapter 4 – Analysis of Alternatives: Includes analysis of Alternatives 1 and 2 and the No Project Alternative.

Chapter 5 – Significant and Unavoidable Impacts: Describes any potential significant environmental impacts that cannot be fully mitigated and are therefore unavoidable and summarizes the substantial evidence contained in the DEIR that provides the economic, legal, social, technological or other benefits that would result from the proposed Project in the event that the City chooses to adopt a Statement of Overriding Considerations on a basis that these benefits override the potentially significant and unavoidable effects that may result.

Chapter 6 – Mitigation Monitoring and Reporting Program: In order to ensure that the mitigation measures and project revisions identified in the DEIR or negative declaration are implemented, the City shall adopt a

program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. This program will summarize the significant environmental impacts and their corresponding mitigation measures, the agency or agencies responsible for carrying out the mitigation, and who determines when the mitigation has been satisfied. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity that accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

Appendix A through **Appendix E** – Following the text of this DEIR, several appendices have been included as supporting or technical reference material.

1.4 Use of the EIR

If found adequate, the DEIR will be certified as a Final EIR (FEIR) by the City for the purpose of disclosing potential environmental impacts resulting from the construction and operation of the proposed Project. The FEIR will incorporate responses to all comments received on the DEIR and will also identify all mitigation measures the City is required to implement to reduce potential impacts. Additionally, the FEIR may also be used by various other public agencies when considering the issuance of their own permits for the proposed Project. The following Responsible Agencies may utilize the FEIR in the issuance of any discretionary permits or approvals prior to construction of all or portions of the proposed Project:

- California Department of Fish and Wildlife
- Central Unified School District
- Regional Water Quality Control Board – Region 5, Central Valley
- State Water Resources Control Board
- San Joaquin Valley Air Pollution Control District
- Fresno County Department of Public Health

1.5 Public Involvement

The development of the EIR from draft to final is designed to involve the public and other potentially affected parties and agencies in the decision-making process. The CEQA process requires open discussion and interaction to determine the scope of a proposed project and environmental topics that are of potential concern. The following sections identify the public processes that have been undertaken for the proposed Project.

1.5.1 Notice of Preparation of the Draft EIR

In accordance with CEQA, the City circulated an NOP for the EIR beginning on June 4, 2021, and ending on July 6, 2021, a duration of 30 days. This NOP was combined with an NOS. The purpose of the NOP/NOS was to inform the public agencies and the general public of the City's intention to prepare an EIR for the Project and to solicit comments to assist the City in determining environmental impacts relating to the Project and to identify potential feasible and reasonable mitigation for such impacts or alternatives that would reduce impacts that should be considered in this EIR. The NOP/NOS was sent via USPS mail to a number of local, State, and federal agencies; to interest groups; and to owners and residents of property within 1,000 feet of the proposed Project. The NOP/NOS was filed with the SCH of the Governor's Office of Planning and Research on June 4, 2021. The NOP/NOS was also published in *The Fresno Bee* on June 4, 2021.

Appendix A contains the NOP/NOS documents along with the mailing lists of those who were sent the NOP/NOS. This appendix includes the reviewing agency letter prepared and distributed by the SCH on June 4, 2021.

Comments received as a result of the NOP/NOS are attached as **Appendix A** hereto and helped direct the analysis presented in this EIR. Comments included discussion of the following general points:

- Inclusion of multi-use trail as a project feature
- Trail width
- Coordination with the San Joaquin River Conservancy Master Plan

1.5.2 Notice of Availability and Distribution of the Draft EIR

On February 18, 2022, a Notice of Availability (NOA) was published in *The Fresno Bee* and mailed to interest agencies and individuals that had previously requested such notice in writing to initiate a 45-day DEIR public review period.

In addition to the NOA, a NOC transmittal form was received by the SCH in the Governor's Office of Planning and Research on February 18, 2022. These documents were transmitted in electronic form and were accompanied by the Executive Summary of the DEIR prepared pursuant to CEQA Guidelines Section 15123.

The DEIR is now available for review and comment by public agencies and the general public for the same 45-day duration. In order to make a well-informed decision about whether to carry out the Project, the City welcomes comments and will receive written comments between February 18, 2022, and April 4, 2022. The City must receive written comments no later than 5:00 p.m. on April 4, 2022. Any written comments should be directed to:

City of Fresno
Attn: Robert Holt, Planner III
2600 Fresno Street, Room 3043
Fresno, CA 93721
or

Email: Robert.Holt@fresno.gov

Additional copies of this DEIR are available for review at the following locations:

City of Fresno website at <https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-15>

Fig Garden Regional Library
3071 West Bullard Avenue
Fresno, CA 93711
(559) 600-4071

1.6 Final EIR

Following the closure of the 45-day DEIR public review and comment period, the City will review comments received, prepare written responses, make any necessary changes to the DEIR, and prepare and publish the FEIR. The FEIR will be the document considered by the City for certification. The FEIR, pursuant to CEQA Guidelines Section 15132, will incorporate:

- The DEIR or a revision of the draft,
- Comments and recommendations received on the DEIR either verbatim or in summary,

- A list of persons, organizations, and public agencies commenting on the DEIR,
- The responses of the Lead Agency to significant environmental points raised in the review and consultation process,
- Any other information added by the Lead Agency.

If the City chooses to certify the FEIR and approve the Project, it will be required to adopt findings relating to significant impacts. In the event that impacts are mitigated to the greatest extent feasible but remain significant and unavoidable, the City will be required to make findings pursuant to CEQA Guidelines Section 15091 and determine that the benefits of the project outweigh the impacts through the adoption of a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093.

If the City chooses not to certify the FEIR and denies the Project, no additional CEQA review would be required.

2 Project Description

2.1 Project Location and Boundaries

The Project is located in the City of Fresno, California, approximately 148 miles southeast of Sacramento and 114 miles northwest of Bakersfield, on the west side of the northern terminus of North Thiele Avenue, directly south of the San Joaquin River (see **Figure 2-1** and **Figure 2-2**). The proposed site of the Project is located on Assessor’s Parcel Numbers 504-050-02 and 504-130-12.

As shown on **Figure 2-3**, the Project area evaluated in this DEIR comprises approximately 17.58 acres situated in the northwest quadrant of the City. The Project site is generally bounded as follows: the San Joaquin River to the north; single-family residences to the east; open space to the south; and a PG&E substation to the west. The Project site is approximately 0.5 miles northeast of State Route 99 and the High Speed Rail Train alignment.

2.2 Environmental Setting

The Project site is in an urbanized area that has been historically farmed until 1985. Today, it is currently vacant and is not utilized for agricultural purposes. The San Joaquin Valley, like most of California, experiences a Mediterranean climate with warm, dry summers and cool, moist winters. The City experiences annual precipitation rates of approximately 12.8 inches, of which 83% falls between October and March¹. The Table below summarizes the surrounding land uses of the Project site.

Table 2-1. Surrounding Land Uses

Direction	Existing Land Use	General Plan	Zoning
North	San Joaquin River	Open Space, Multi-Use	Unzoned (San Joaquin River)
South	Equestrian Park	Open Space, Regional Park	PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management)
East	Single-Family Residential	Medium-Low Density Residential	RS-4/BL/UGM (Residential Single-Family, Medium Low Density/Bluff Protection/Urban Growth Management)
West	PG&E Substation	Public Facility – PG&E Substation	PI/BL/UGM (Public and Institutional/Bluff Protection/Urban Growth Management)

2.3 Project Components

The purpose of the proposed Project is to provide a variety of housing opportunities with a range of densities, styles, sizes, and values that will be designed to satisfy existing and future demand for quality housing in the area. The Project will construct 89 homes and ancillary public facilities and infrastructure on an approximately 17.58-acre lot. The primary components of the Project are described in more detail below.

2.3.1 Plan Amendment

The project includes an amendment to the General Plan and Bullard Community Plan Land Use Map to change the subject property:

- From the following land use designations:
 - Open Space, Regional Park (±14.0 acres);

¹ (U.S. Climate Data. 2021). [Climate Fresno - California and Weather averages Fresno \(usclimatedata.com\)](https://usclimatedata.com) Accessed on July 19, 2021.

- Open Space, Multi-Use (± 1.30 acres); and,
- Public Facility, PG&E Substation (± 2.28 acres);
- To Residential, Medium Density (± 17.58 acres).

Figure 2-4 depicts the Existing General Plan Land Use Designation Map.

2.3.2 Rezone

The project will amend the Official Zoning Map of the City of Fresno to change the subject property:

- From the following Zone Districts:
 - PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management) (± 15.30 acres); and,
 - PI/BL/UGM (Public Institutional/Bluff Protection/Urban Growth Management) (± 2.28 acres)
- To the RS-5/BL/UGM (Residential Single Family, Medium Density/Bluff Protection/Urban Growth Management) Zone District (± 17.58 acres).

Figure 2-5 depicts the existing zone districts.

2.3.3 Subdivision

The proposed Project will subdivide the subject property into an 89-lot conventional single-family residential development at a density of approximately 5.05 dwelling units/acre. Outlots will be dedicated to the City for open space, trails, parking, flood control, and emergency vehicle access purposes. Figure 2-3 depicts the Site Tentative Map Drawing.

2.3.4 Public Facilities and Infrastructure

The proposed Project will construct public facilities and infrastructure in accordance with the standards, specifications, and policies of the City of Fresno in order to facilitate the proposed subdivision. These include water and sewer mains, a stormwater basin and associated infrastructure such as inlets and lines, a Class 1 trail, curb, gutter, sidewalks, signs, fire hydrants, and street lighting.

2.3.5 Annexation

The proposed Project is currently within the city limits of the City of Fresno, therefore, no annexation is required through the Fresno Local Agency Formation Commission (LAFCo).

The proposed Project will annex the subject property into the City of Fresno Community Facilities District (CFD) No. 11 for maintenance of parks and right-of-way.

2.3.6 Construction Phasing

Project construction will occur in one phase. Construction hours would be limited to 7:00 am to 10:00 pm, Monday through Saturday, pursuant to Fresno Municipal Code Section 10-109.

2.3.7 Operation and Maintenance

Maintenance of public infrastructure will occur as needed through collection of property taxes, assessments levied through the CFD, or services fees.

Solid waste vehicles are expected to service the Project's solid waste, recycling, and green waste needs weekly.

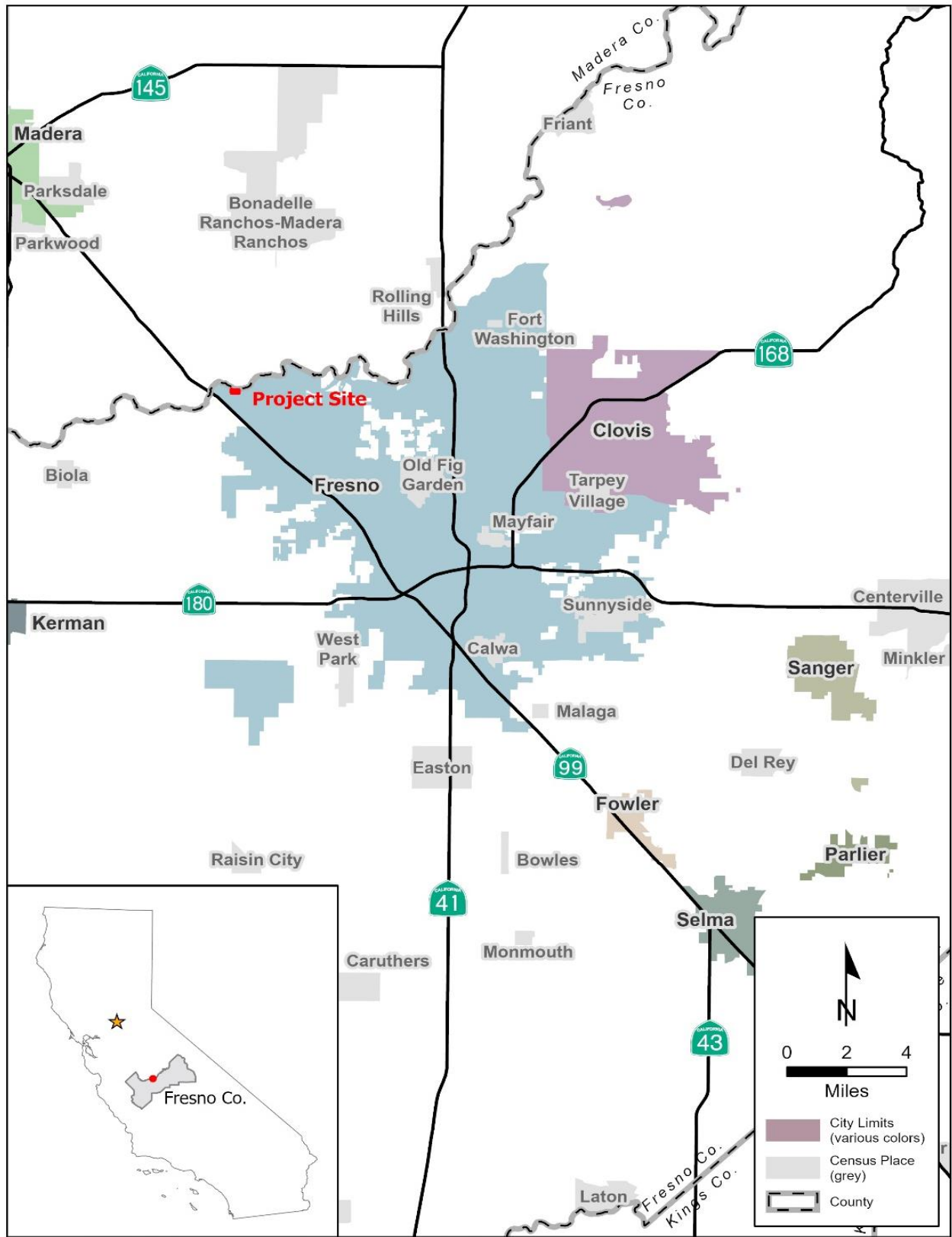


Figure 2-1. Regional Vicinity Map

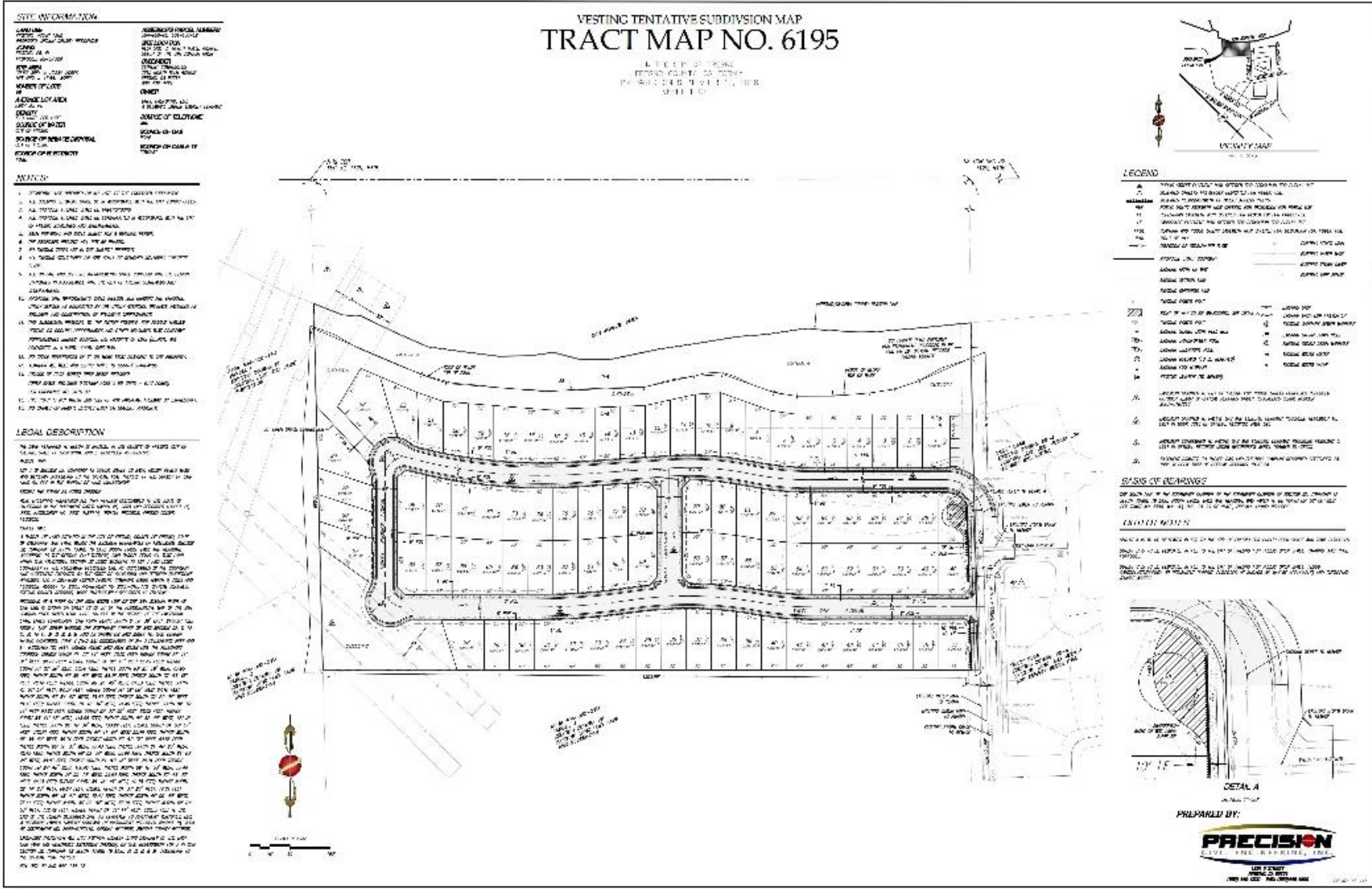


Figure 2-3. Site Plan Tentative Map Drawing



Figure 2-4. Existing General Plan Land Use Designation Map

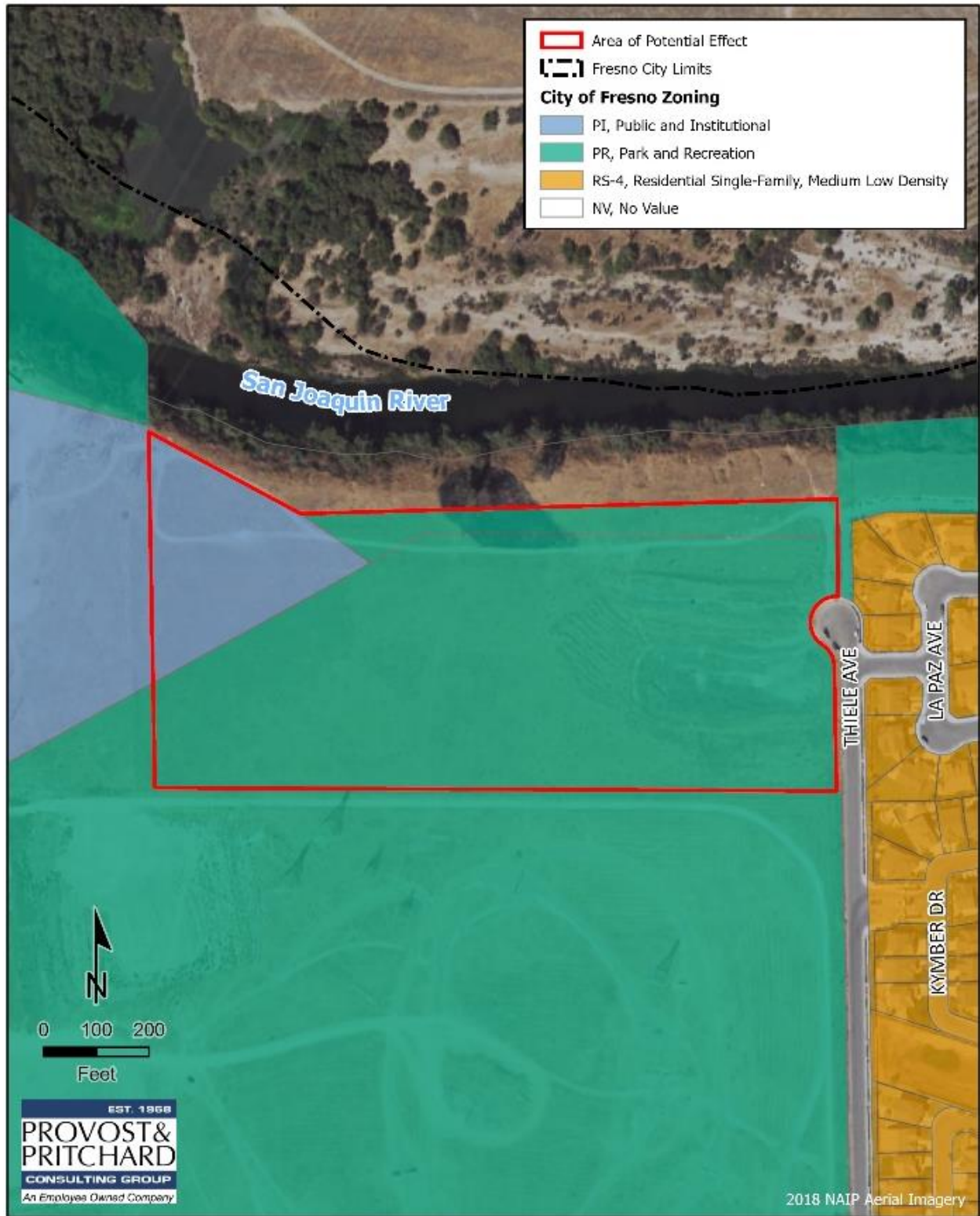


Figure 2-5. Existing Zone District Map

3 Impact Analysis

3.1 Geology and Soils

Table 3-1. Geology and Soils

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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?	See Appendix B.			
b) Result in substantial soil erosion or the loss of topsoil?	See Appendix B.			
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	See Appendix B.			
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	See Appendix B.			
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	See Appendix B.			

3.1.1 Environmental Setting

3.1.1.1 Geology and Soils

The Project is located in central Fresno County, in the southern section of California’s Great Valley Geomorphic Province, or Central Valley, directly adjacent to the south of a portion of the San Joaquin River. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply

upturned along the western margin due to the uplifted Sierra Nevada Range.² From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.1.1.2 Faults and Seismicity

Most of Fresno is situated within an area of relatively low seismic activity and is not located within a known active earthquake fault zone³. The Project is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within the City of Fresno. The nearest major fault is the San Andreas Fault, located approximately 72 miles southwest of the Project site. The San Andreas fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. The San Joaquin Fault is located approximately 56 miles west of the Project site.

3.1.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in Fresno County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. Soil types along the Valley floor are not generally conducive to liquefaction because they are generally too coarse. Furthermore, the average depth to groundwater within the City of Fresno is approximately 85 to 95 feet which also minimizes liquefaction potential.

3.1.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils, high in silt or clay content, that become saturated. Although some areas in Fresno County have experienced subsidence due to groundwater overdraft, the City of Fresno's elevation has remained relatively unchanged. Soils of the Project site are listed in Table 1 of Appendix A of **Appendix B**. Soils onsite represent a low risk of subsidence.

3.1.1.5 Dam and Levee Failure

Hundreds of dams and reservoirs have been built in California for water supply, flood control, hydroelectric power, and recreational uses. The storage capacity of these dams varies across the State from large reservoirs with capacities exceeding millions of acre-feet (AF) to small reservoirs with capacities from hundreds to thousands of AF. Depending on the season, water from these reservoirs is released into the river system of the State and eventually reaches the Pacific Ocean. The San Joaquin River, located at the north edge of the City of Fresno, is the primary river in the vicinity. The San Joaquin River is impounded by Friant dam which forms the 520 thousand acre-feet Lake Millerton, approximately 16 miles northeast of the Project site. If Friant dam were to fail, a large portion of Fresno County, including the City of Fresno, would be inundated with water.

3.1.1.6 Regulatory Settings

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the City. The following objective and policies related to land use and planning are presented in the General Plan:

² (Harden, 1998)

³ California Department of Conservation. Fault Activity Map of California. Website: <https://maps.conservation.ca.gov/cgs/fam/>. Accessed 5/24/21.

- **Policy NS-2-d: Bluff Preservation Overlay Zone.** Per the requirements of the Bluff Preservation Overlay Zone District and Policy POSS-7-f (Chapter 5, Parks and Open Space), the following standards shall be applicable for property located within the Bluff Preservation zone:
 - Require proposed development within 300 feet of the toe of the San Joaquin River bluffs to undertake an engineering soils investigation and evaluation report that demonstrates that the site is sufficiently stable to support the proposed development, or provide mitigations to provide sufficient stability; and
 - Establish a minimum setback of 30 feet from the San Joaquin River bluff edge for all buildings, structures, decks, pools and spas (which may be above or below grade), fencing, lighting, steps, etc.
 - An applicant may request to reduce the minimum setback to 20 feet from the bluff edge if it can be demonstrated, to the satisfaction of the City's Building Official and the Planning Director, that the proposed building, structure, deck, pool and/or spas (which may be above or below grade), fencing, steps, etc., will meet the objectives of the Bluff Preservation Overlay Ordinance. In no case shall the setback be reduced to less than 20 feet.

- **Policy POSS-7-f: River Bluffs.** Preserve the river bluffs as a unique geological feature in the San Joaquin Valley by maintaining and enforcing the requirements of the "BP" Bluff Preservation Overlay Zone District, maintaining the bluff area setback for buildings, structures, decks, pools and spas (which may be above or below grade), fencing, and steps, and maintaining designated vista points.
 - Strive to assure that development of the parkway and other uses within the San Joaquin river bottom environs are consistent with the mineral resources conservation zones; honor flood, environmental, recreational and aesthetic issues; protect natural habitats and historic resources; and consider adjacent property owners.
 - Take an active role in establishing park entrance. Provide all gates, trails and roads adequate access by emergency vehicles such as fire trucks, police cars, and ambulances.
 - For safety reasons, access may be limited to points that have controlled access gates. Cooperation of private parties having legal control of river bottom access shall be sought in this effort.
 - Continue to work toward the adoption of official plan lines for new segments of the San Joaquin River Trails and actively pursue completion of these segments to ensure that adequate and appropriate public access to the San Joaquin River and the Parkway is provided. Refer to Policy NS-2-d (Chapter 9, Noise and Safety) for additional information for sites within the BP Overlay District.

City of Fresno Municipal Code

Section 15-1603. Bluff Protection (BL) Overlay District Purpose. The Bluff Protection (BL) Overlay District is intended to provide special land development standards that will preserve the integrity of the natural landscape of the southerly San Joaquin River Bluffs, adjacent properties, and adjacent open spaces as areas of special quality by reason of the topography, geologic substratum, and environment of the area. Regulations for the BL Overlay District are deemed necessary for the preservation of the special qualities of the southerly San Joaquin River Bluffs, and for the protection of the health, safety, and general welfare of owners and users of property within the River Bluff Influence Area. A civil engineer or soils engineer registered in the State of California must investigate existing conditions and report on soil and geologic conditions, utilizing methods consistent with accepted practices. This regulation applies to areas within 300 feet of the toe of the San Joaquin River bluff.

3.1.2 Impact Assessment

a) Would the project 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?

See **Appendix B**.

b) Would the project result in substantial soil erosion or the loss of topsoil?

See **Appendix B**.

c) 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?

Less than Significant Impact with Mitigation. The Project is not located in an area 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. The Department of Conservation has not identified the Project site as being in an area that would be at risk of lateral spreading, and liquefaction or collapse⁴. In addition, the United States Geologic Survey (USGS) has not identified the Project area as a location that is likely to experience soil subsidence.⁵ While the Project is located in the vicinity of a bluff area created by the San Joaquin River to the north, the Project would be constructed following the standards and policies provided in the Bluff Protection Overlay District of the City of Fresno Municipal Code. This would limit any potential occurrence of a landslide event in the Project area. Like most of California, the Project site experiences seismic activity to a varying degree, however, the site has not been identified as a location that would present potential impacts due to seismic occurrences.

The Fire Department requires that the proposed trail, located at the bluff edge, be engineered to withstand a 25,000-pound fire apparatus. A Geotechnical Report, found in **Appendix B**, indicates that the existing soils can safely withstand the weight of an above-mentioned fire apparatus if the supporting trail surface complies with Public Works Standard P-58 for a Class I Trail. Compliance with this Geotechnical Engineering Investigation, GEO-1, would ensure impacts remain less than significant.

Mitigation Measure

GEO-1: Prior to issuance of grading and building permits, the Project shall comply with the recommendations of the Geotechnical Engineering Investigation, Seismic Design Requirements Update, and its Addendum.

⁴ California Department of Conservation. Earthquake Zones of Required Investigation. Website: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed 6/25/21.

⁵ USGS. Areas of Land Subsidence in California. Website: https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html. Accessed 6/25/21.

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

See [Appendix B](#).

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

See [Appendix B](#).

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

See [Appendix B](#).

3.1.3 Cumulative Impacts

Less than Significant Impact. Geotechnical impacts related to future development in the City involve hazards related to site-specific soil conditions, erosion, and ground-shaking during earthquakes. The impacts on each site are specific to that site and its users and would not be in common or contribute to (or shared with, in an additive sense) the impacts on other sites. In addition, development on each site is subject to uniform site development and construction standards that are designed to protect public safety. Therefore, cumulative geotechnical impacts would be less than significant.

3.2 Noise

Table 3-2. Noise

Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	See Appendix B .			

3.2.1 Environmental Setting

Except for the existing residential neighborhood to the east of the Project site, the Project is not located in the vicinity of noise sensitive land uses. The Project site is located approximately 2.25 miles west of the Sierra Sky Park Airport, but it is located outside of all of the identified Airport Protection Zones within the Fresno County, Airport Land Use Compatibility Plan. State Route 99, located approximately 0.4 miles southwest is identified in the Fresno General Plan as a significant transportation noise source within the Project area.

3.2.2 Regulatory Setting

3.2.2.1 Federal

United States Environmental Protection Agency. In 1972, Congress enacted the United States Noise Control Act. This act authorized the United States Environmental Protection Agency (USEPA) to publish descriptive data on the effects of noise and establish levels of sound “requisite to protect the public welfare with an adequate margin of safety.” These levels are separated into health (hearing loss levels) and welfare (annoyance levels). For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to 70 dBA during a 24-hour period of time. At 55 dBA Ldn, 95 percent sentence clarity (intelligibility) may be expected at 11 ft, with no community reaction. However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance. The USEPA cautions that these identified levels are guidelines, not standards.⁶

Federal Vibration Impact Standards. Vibration impact criteria included in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual⁷ are used in this analysis for ground borne vibration impacts on human annoyance, as shown in [Table 3-3](#) below. The criteria presented in [Table 3-3](#)

⁶ U.S. Environmental Protection Agency. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.

⁷ Federal Transit Administration. 2018. Office of Planning and Environment. Transit Noise and Vibration Impact Assessment.

the noise insulation standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

In addition, Chapter 5, Section 5.507 of the California Green Building Standards Code includes nonresidential mandatory measures, which require that buildings exposed to a noise level of 65 dB Leq-1-hour during any hour of operation shall have building, addition, or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite Sound Transmission Class (STC) rating of at least 45 (or Outdoor/Indoor Transmission Class [OITC] 35) with exterior windows of a minimum STC of 40 (or OITC 30).

The State has also established land use compatibility guidelines for determining acceptable noise levels for specified land uses.

3.2.2.3 Local

City of Fresno General Plan. The General Plan contains a set of policies and programs that form a blueprint for the physical development of the city. The following objectives and policies related to noise. In addition, the Noise Element sets noise standards for transportation and stationary noise sources as shown in **Table 3-4** and **Table 3-5** below.

Table 3-4. Transportation (Non-Aircraft) Noise Sources

Noise-Sensitive Land Use ^a	Outdoor Activity Areas ^b	Interior Spaces	
	L _{dn} /CNEL, dB	L _{dn} /CNEL, dB	L _{eq} dB ^b
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

Source: City of Fresno General Plan (2014).
^a Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
^b As determined for a typical worst-case hour during periods of use

Table 3-5. Stationary Noise Sources

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	60

Source: City of Fresno General Plan (2014).
^a The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
^b As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.

Objective NS-1. Protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.

- **Policy NS-1-a: Desirable and Generally Acceptable Exterior Noise Environment.** Establish 65 dBA Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dBA Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.
- **Policy NS-1-b: Conditionally Acceptable Exterior Noise Exposure Range.** Establish the conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2.
- **Policy NS-1-c: Generally Unacceptable Exterior Noise Exposure Range.** Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential and other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise-sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally desirable or generally acceptable exterior noise level and the required 45 dB interior noise level standards set in Table 9-2 as conditions of permit approval.
- **Policy NS-1-f: Performance Standards.** Implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB Ldn or CNEL, as shown on Figure NS-3: Future Noise Contours, or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Tables 9-2 and Policies NS-1-a through NS-1-c.
- **Policy NS-1-g:** Noise mitigation measures which help achieve the noise level targets of this plan include, but are not limited to, the following:
 - Façades with substantial weight and insulation;
 - Installation of sound-rated windows for primary sleeping and activity areas;
 - Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
 - Greater building setbacks and exterior barriers;
 - Acoustic baffling of vents for chimneys, attic and gable ends;
 - Installation of mechanical ventilation systems that provide fresh air under closed window conditions.
- **Policy NS-1-k: Proposal Review.** Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.
- **Policy NS-1-m: Transportation Related Noise Impacts.** For projects subject to City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise-sensitive land uses.
- **Policy NS-1-n: Best Available Technology.** Require new noise sources to use best available control technology to minimize noise emissions.
- **Policy NS-1-o: Sound Wall Guidelines.** Acoustical studies and noise mitigation measures for projects shall specify the heights, materials, and design for sound walls and other noise barriers. Aesthetic considerations shall also be addressed in these studies and mitigation measures such as variable noise barrier heights, a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise

receptor, with a maximum allowable height of 15 feet. The City will develop guidelines for aesthetic design measures of sound walls, and may commission area wide noise mitigation studies that can serve as templates for acoustical treatment that can be applied to similar situations in the urban area.

City of Fresno Municipal Code: The following municipal code regulations further regulate noise within City limits:

- **SEC. 10-102. Definitions. (b) Ambient Noise.** “Ambient noise” is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location.

Table 3-6. Ambient Noise Levels

District	Time	Sound Level Decibels
Residential	10:00 p.m. to 7:00 a.m.	50
Residential	7:00 p.m. to 10:00 p.m.	55
Residential	7:00 a.m. to 7:00 p.m.	60

- **SEC. 10-105. Excessive Noise Prohibited.** No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:
 - Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.
 - Animals or fowl creating, generating, or emitting any cry or behavioral sound.
 - Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.
 - Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools.

3.2.3 Impact Assessment

a) 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 the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. WJV Acoustics, Inc. prepared an Acoustical Analysis report in June 2021 for the purpose of identifying potential noise impacts that may result from the proposed Project. The Report is included as **Appendix D**.

Construction noise generated from the Project would typically occur intermittently and vary depending upon the nature or phase (e.g., demolition, land clearing, grading, excavation, erection) of construction. Noise produced by construction equipment such as earthmovers, material handlers, and portable generators can reach high levels. Generally, the grading phase of construction involves the most equipment and generates the highest noise levels, although noise ranges are usually similar across all construction phases. Typical construction equipment noise levels are provided in **Table 3-7**. As shown, noise levels generated by individual pieces of construction equipment generally range from approximately 77 dBA to 90 dBA Lmax at 50 feet. Typical operating cycles vary by equipment type and specific activity, although cycles generally involve two minutes of full power, followed by three to four minutes at lower settings. Depending on the equipment required and

duration of use, average-hourly noise levels associated with construction activity typically ranges from roughly 65 to 90 dBA Leq at 50 feet. The highest noise levels are generally associated with grading and excavation phases.

Table 3-7. Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA Lmax) 50 feet from Source
Backhoe/Front-End Loader	80
Compactor	80
Concrete Mixer Truck	85
Dozer	85
Grader	85
Excavator/ Scraper	85
Air Compressor	80
Gradall (Forklift)	85
Generator	82
Truck (Dump/Flat Bed)	84
Paver	85
Pneumatic Tool	85
Pump	77
Roller	85
Concrete Saw	90
<i>Source: Roadway Construction Noise Model (Federal Highway Administration 2006)</i>	

Implementation of the Project would include construction of a single-family residential subdivision, as well as ancillary infrastructural improvements such as roadways and water delivery and wastewater conveyance pipelines.

As set forth by Chapter 10, Article 1, Section 10-109 – Exemptions, the provisions of Article 1 – Noise Regulations of the Fresno Municipal Code shall not apply to:

Construction, repair, or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

Thus, although development activities associated with buildout of the Project could potentially result in a temporary or periodic increase in ambient noise levels in the project vicinity, construction activity would be

exempt from City of Fresno noise regulations, as long as such activity is conducted pursuant to an applicable construction permit and occurs between 7:00 a.m. and 10:00 p.m., excluding Sunday. Therefore, short-term construction impacts associated with the exposure of persons to or the generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies would be less than significant.

According to the Acoustical Analysis in **Appendix D**, the City of Fresno interior noise level standard is 45 dB L_{dn} . The worst-case future noise exposure within the proposed residential development would be approximately 52 dB L_{dn} for the closest proposed lots to N. Thiele Avenue and (potentially) 60 dB for the closest lots to the High Speed Train line. This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction of approximately 15 dB ($60-45=15$).

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 the City's 45 dB L_{dn} interior standard at all proposed lots. 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. The reverse would follow suit. Research using aerial photography indicates all residences adjacent to North Thiele Avenue are equipped with air conditioning therefore eliminating the need for open windows. Therefore, there would be a less than significant impact.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. Ground vibration generated by construction equipment and transportation sources spreads through the ground and diminishes in strength with distance. The effects of ground vibration can vary from no perceptible effects at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage.

Construction activities associated with the Project could result in exposure of sensitive land uses to excessive ground borne vibration and noise levels. Problems, such as disturbance, due to ground borne vibration and noise from these sources are usually contained to areas within about 100 feet of the vibration source. Typically, the main effect of ground borne vibration and noise is to cause annoyances for occupants of nearby buildings.

Mandatory buffers set forth by the City of Fresno Development Code (e.g., setbacks, easements, rights-of-way) would ensure that in most cases onsite and offsite structures would be separated by at least 25 feet, and thus construction activities would be buffered by at least 25 feet from existing offsite structures. The Project area is buffered by existing right-of-way between the existing residential subdivision to the east and a dedicated 28-foot proposed trail known as Outlot "A" at the north boundary of the property, therefore any sensitive receptor would already meet the mandatory 25-foot buffer. Impacts would be less than significant.

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?

See **Appendix B**.

3.2.4 Cumulative Impacts

Less than Significant Impact. The cumulative setting for Noise impacts consists of the existing and future noise sources that could affect the proposed Project or surrounding areas. Noise is generally localized because it reduces in magnitude as distance away from the source increases. Only projects within close proximity or those that produce ambient growth could potentially result in cumulative noise impacts. As shown in Section 3.2 -

Noise, the Project will have a less than significant impact on noise. Construction noise generated by the Project and future projects in the area would be temporary and would not add to the permanent noise environment or be considered as part of the cumulative context. Construction noise for future projects would be evaluated by the City on a project-by-project basis and each new development would be required to adhere to existing noise regulations and ordinances. Operational (traffic) noise would occur as a result of increased traffic on local roadways due to the proposed Project. Future projects were considered as part of the cumulative analysis, with particular regard to cumulative traffic/vehicle noise. However, as new projects are proposed, the City will evaluate noise impacts on a project-by-project basis. Any future projects would be required to mitigate their noise impacts. The project's cumulative impacts on noise are considered less than significant.

3.3 Transportation/Traffic

Table 3-8. Transportation/Traffic

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	See Appendix B.			
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	See Appendix B.			
d) Result in inadequate emergency access?	See Appendix B.			

3.3.1 Environmental Setting

The Project site consists of a vacant lot adjacent to Thiele Avenue, a local street whose right-of-way is approximately 60 feet wide. The Project site is adjacent to the San Joaquin River and PG&E-owned property. A portion of the Project site, along the bluff edge, is planned for a mixed-use (bicycle and pedestrian) trail by the General Plan and Active Transportation Plan.

The Fresno COG prepared a Vehicle Miles Traveled (VMT) screening map for CEQA purposes. Residential development of the Project site would result in higher-than-average vehicle miles traveled.

3.3.2 Regulatory Setting

City of Fresno Active Transportation Plan. The City’s Active Transportation Plan (ATP), adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in Fresno. The ATP supersedes the Bicycle, Pedestrian, and Trails Master Plan that was adopted in 2010. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan lays out specific goals to improve bicycle and pedestrian access and connectivity in Fresno. These goals include the following:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno;
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities;
- Improve the geographical equity of access to walking and bicycling facilities in Fresno; and,
- Fill key gaps in Fresno’s walking and bicycling networks.

City of Fresno Subdivision Design Standards. Part IV, Land Divisions, of the Citywide Development Code regulates the design and improvement of subdivisions within the City of Fresno, and were adopted to further implement the policies of the General Plan. As stated in this section, the subdivision ordinance is specifically intended to:

1. Ensure that the design and improvement of subdivisions is consistent with and promotes the goals and policies of the General Plan and applicable operative plans;
2. Provide for adequate access and circulation across all modes of transportation;

3. Ensure the availability of adequate public facilities;
4. Provide options for the future development of adjacent properties; and
5. Protect and enhance property values.

Applicable subdivision design standards include maximum block lengths, connections to trails, access to major streets, bus stops, and non-residential areas, and provisions for pedestrian and bicycle paths, and street trees.

Senate Bill (SB) 743. Signed in 2013, SB 743 changes the way transportation studies are conducted in California Environmental Quality Act (CEQA) documents. Vehicle miles traveled (VMT) replaces motorist delay and level of service (LOS) as the metric for impact determination.

In January 2019, the Natural Resources Agency and the Governor's Office of Planning and Research (OPR) codified SB 743 into the Public Resources Code (PRC) and the State CEQA Guidelines. State CEQA Guidelines Section 15064.3 subdivision (b) states:

1. **Land Use Projects.** Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
2. **Transportation Projects.** Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.
3. **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
4. **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds (VMT Guidelines). In June 2020, the City adopted VMT thresholds and guidelines to address VMT to be effective on July 1, 2021, as required by SB 743. The City's document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants are required to follow the guidance provided in the City's document for preparation of CEQA VMT analysis. The document includes the following:

- Definition of region for VMT analysis
- Standardized screening methods for VMT threshold compliance data
- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans

- Feasible mitigation strategies applicable for development projects, transportation projects, and plans

3.3.3 Impact Assessment

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

See [Appendix B](#).

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

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

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities is no longer a relevant CEQA criteria for transportation impacts.

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

On June 25, 2020, the City of Fresno adopted CEQA Guidelines for VMT Thresholds, pursuant to Senate Bill 743 to be effective of July 1, 2020. The thresholds described therein are referred to herein as the City of Fresno VMT Thresholds. The City of Fresno VMT Thresholds document was prepared and adopted consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the Fresno VMT Thresholds.

The City of Fresno VMT Thresholds adopted a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from needing to prepare a detailed VMT analysis.

The City of Fresno VMT Thresholds Section 3.1 regarding Development Projects states that if a project constitutes a General Plan Amendment or a Rezone, none of the screening criteria may apply, and that the City must evaluate such projects on a case-by-case basis. In this case, the Project includes both a General Plan Amendment and a Rezone and does not meet the screening criteria. As such, a quantitative VMT analysis is required.

For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance. The Fresno VMT Thresholds document includes thresholds of significance for development projects, transportation projects, and land use plans. These thresholds of significance were developed using the County of Fresno as the applicable region, and the required reduction of VMT (as adopted in the Fresno VMT Thresholds) corresponds to Fresno County's contribution to the statewide GHG emission reduction target. In order to reach the statewide GHG reduction target of 15%, Fresno County must reduce its GHG emissions by 13%. The method of reducing GHG by 13% is to reduce VMT by 13% as well.

The City’s adopted thresholds for development projects correspond to the regional thresholds set by the Fresno Council of Governments (COG). For residential and non-residential (except retail) development projects, the adopted threshold of significance is a 13% reduction, which means that projects that generate VMT in excess of a 13% reduction from the existing regional VMT per capita or per employee would have a significant environmental impact. Projects that reduce VMT by more than 13% are less than significant.

Quantitative assessments of the VMT generated by a development project are determined using the COG VMT Calculation Tool for smaller projects and the COG Activity Based Model (ABM), which is a tour-based model, for larger projects (see sections 4.3.1 and 4.3.2 on page 26 of the Fresno CEQA Guidelines for Vehicle Miles Traveled, June 25, 2020)

The VMT Analysis (**Appendix E**) utilized a quantitative assessment of the VMT generated by the project using the Fresno COG VMT Calculator Tool which is based on its own Activity-Based Model (ABM), a tour-based model. Additionally, VMT-reducing project features built into the design of the subdivision, as well as proximity to VMT-reducing infrastructure, are described in the table below. These reductions were quantified using the City of Fresno’s Urban Form VMT Calculator Tool, which quantifies the reductions in VMT by the type and intensity of features found within or proximate to the Project. These project features were required to be implemented pursuant to the City of Fresno Subdivision Design Standards and implementation of General Plan policies, and thus are not considered mitigation.

Project VMT may be calculated using the Fresno COG VMT Calculation Tool for residential projects having less than or equal to 500 dwelling units or office projects having less than or equal to 375 employees. Because this project is for single-family residential and there are less than 500 dwelling units, the Fresno COG VMT Analysis Tool was used to determine the Project VMT.

The Fresno COG VMT Calculator Tool identified the Transportation Analysis Zone of which this Project is located would generate 20.6 VMT per capita.

An analysis was performed of the VMT-influencing features of the Project’s design and its relationship to features in the surrounding area. Table 3-9 depicts those features that reduce and increase VMT.

Table 3-9. VMT Project Features

Project Feature Category	Project Feature	VMT Reduction (%)	VMT Reduction (VMT per Capita)
Circulation Network	High Intersection Density	2.00	0.41
	Short Block Lengths	0.67	0.14
	High Pedestrian Connective Between Uses	-0.17	-0.03
	High Automobile Connectivity Between Uses	-0.17	-0.03
	High Pedestrian Connectivity to Adjacent Development Sites	-0.67	-0.14
	High Automobile Connectivity to Adjacent Development Sites	-0.67	-0.14
	Major Street Pedestrian Connectivity	-0.67	-0.14
	Major Street Automobile Connectivity	-0.67	-0.14
	Major Street Permeability	-0.67	-0.14
	Transit Connectivity	-0.67	-0.14
	Subtotal	-1.67	-0.34
Street Design	Dual Sidewalks	2.00	0.41
	Wide Residential Sidewalks	0.33	0.07
	High Street Tree Coverage	-0.67	-0.14
	Wide Sidewalks on Major Street (within the project and at the perimeter)	-0.67	-0.14

Project Feature Category	Project Feature	VMT Reduction (%)	VMT Reduction (VMT per Capita)
	Narrow Local Streets	0.33	0.07
	Subtotal	1.33	0.27
Land Use	Public Open Space	1.00	0.21
	High Pedestrian Entrance Frequency	1.00	0.21
	Reduced Residential Setbacks	0.33	0.07
	Low Residential Driveway Density	-0.33	-0.07
	Recessed Parking	0.50	0.10
	Accessible Major Street Frontage	2.00	0.10
	Subtotal	4.50	0.93
	Grand Total	4.17	0.86

The table below summarizes the VMT results provided by Fresno COG for the Project components and the effects of the VMT project features. Based on Fresno COG VMT results, the Project is projected to have a VMT of 19.74 per capita and exceed the City’s VMT threshold of 14.01 VMT per capita. Considering all feasible on-site VMT-reducing project features identified, the Project's VMT impacts constitute a significant impact.

Table 3-10. VMT Analysis

Baseline Area VMT	VMT Threshold	Reduction in VMT from Project Features	VMT (with Project Features)	Significant Impact?
20.6	14.01	-0.86	19.74	Yes

In order to further reduce the Project’s impact to less than significant, implementation of mitigation measures would be necessary.

The following mitigation measures are deemed infeasible for the reasons specified below:

Require Park Strips in Sidewalk

The City of Fresno Urban Form VMT Calculator Tool quantifies an additional 1.33% reduction in VMT if the Project utilized a right-of-way with integral park strips. This would require a 56-foot right-of-way, compared to the proposed 50-foot right-of-way. While the additional six feet appears negligible, single-family lots and the proposed trail would be required to encroach into the required bluff setback of the Bluff Protection (BL) Overlay District. For this reason, this mitigation measure is not feasible.

Require Homeowners/Tenants to Telecommute

Requiring persons residing in each house to telecommute could significantly reduce employment-related vehicle miles traveled. This mitigation measure was considered socially and legally infeasible, and thus discarded. This mitigation measure would be more appropriate for an employment project, where office-type uses have the ability to require telecommuting.

Commercial Land Uses in Project

Zoning part of the Project for commercial land uses could theoretically decrease VMT by allowing commercial land uses closer to the Project and residential subdivisions nearby. While Corner Commercial land uses are allowed in the RS-5 zone district, they are prohibited when the site does not front onto a Major Street. (FMC Section 15-2722) Thiele Avenue is not a General Plan-designated Major Street, where commercial land uses are typically seen and expected. For this reason, commercial land uses would be legally infeasible.

Installation of New Bicycle Lanes

Table B, Item 1 of the VMT Guidelines indicates that a 0.30% VMT reduction could be achieved per 100 miles of new Class II bike lanes. To fully mitigate the Project's VMT impact, the Project would need to construct over 7.02 miles of bike lanes. The Active Transportation Plan, adopted by City Council in December 2016, identified 25 high priority active transportation projects for a total of 52 miles of Class II bicycle lanes. Funding these projects was considered infeasible because the City does not have a mechanism to accept an in-lieu fee for CEQA mitigation, prior to creation of a VMT program and subsequent nexus study. For this reason, this mitigation measure is infeasible at this time.

Extension of Transit Lines

Table B, Item 2 of the VMT Guidelines indicates that a 0.07% VMT reduction could be achieved per 100 miles of new transit lines. To fully mitigate the VMT impact, the Project would need to construct over 30 miles of transit routes. While no cost estimates can be provided, it is assumed that the cost per 100 miles of new transit line would be less than that to convert or add to a BRT line. Despite this, State TDA regulations require FAX to maintain a minimum 20 percent farebox recovery ratio,⁸ and the City has historically used Measure C funds to make up for this deficit.⁹ For this reason, it is assumed that bus routes are at their most efficient. Extending a bus line would increase operational costs and could result in reduced farebox recovery. Further reduced farebox recovery ratios would be required to be offset by more Measure C dollars, General Fund dollars, offset by homeowners in the subdivision, or by removing routes with smaller recovery ratios. Therefore, this mitigation measure is both socially and financially infeasible.

Conversion of an Existing Transit Line to or Addition of a New BRT Line

Table A, Items 1 and 2 of the VMT Guidelines indicate that a 0.2 to 0.33% reduction in VMT could be achieved for every 100 miles extended or converted. To mitigate the VMT impact, the Project would need to construct or convert 6.38 to 10.53 miles of new or converted BRT lines. The estimated cost of the existing BRT line was \$2.89 million per mile in 2010 dollars. Therefore, to reduce impacts to less than significant, the Project would need to construct nearly a minimum of \$23.7 million in 2021 dollars to construct BRT lines. At a cost of over \$266 thousand per home, this mitigation measure is not financially feasible.

Transit Pass Subsidization

The Project could perpetually fund transit subsidy passes for all residents of the Project, which could result in a reduction of up to 20 percent. The current cost of transit passes are \$36 per pass per month. Given a population rate of 3.07 persons per household, as found in the City of Fresno General Plan's Housing Element, annual transit passes would cost approximately \$1,300 per household, and is likely to increase with the rate of inflation. This cost would likely be passed onto homeowners through a Homeowner's Association (HOA). However, the Project area lacks quick non-automobile alternatives. After reviewing existing transit lines, a person would need to walk over 1 mile to the nearest bus stop, followed by approximately one hour of bus rides and transfers, for a total of a 1.5-hour commute. A typical morning commute via automobile would take approximately 16 to 26 minutes. Therefore, approximately 80,330 annual person-hours, or approximately \$1.2 million dollars of productivity (assuming \$15 per person-hour) would be lost if these trips were shifted to existing transit services. Due to the non-competitive nature of existing transit services, vehicle miles traveled reduction through transit pass subsidization is considered economically and socially infeasible.

“Unbundling” Parking from Housing Costs

Table A, Item 20 of the VMT Guidelines states that reducing or charging for parking could result in a 2.6 to 13% reduction in VMT, however due to existing zoning regulations, charging for required parking spaces is not allowed. (FMC Section 15-2415-B) Therefore, this mitigation measure is not feasible.

⁸ California Code of Regulations, Title 21, Section 6633.2.

⁹ City of Fresno. *Fresno-Clovis Metropolitan Area (FMCA) Short Range Transit Plan (SRTP) 2022-2026*. June 24, 2021. Website: <https://www.fresno.gov/transportation/wp-content/uploads/sites/13/2021/06/FCMA-SRTP-2022-2026-FINAL.pdf>

The following mitigation measures were found feasible to implement, however their effectiveness is not quantifiable for the reasons listed below:

Purchase of Bicycles for First Buyers

While not quantifiable, purchasing bicycles for homebuyers could encourage homeowners to use alternative modes of transportation within the vicinity of the Project.

Designate a Carsharing / Vanpool Stall in Outlot B

While there is no carsharing company established currently, this does not preclude one from being established in the future. Table A, Item 24 of the VMT Guidelines indicate a 0.4 to 0.7% reduction in VMT from the implementation of a car-sharing program. While it would be economically infeasible for this Project to implement a Citywide program, accommodating such a program in the future could reduce future VMT by the amount indicated above.

Table 3-11. VMT Analysis

Baseline Area VMT	Reduction in VMT from Project Features	Reduction from Feasible Mitigation	Project VMT	VMT Threshold	Significant Impact?
20.6	-0.86	0 ¹	19.74	14.01	Yes
¹ The reduction value of these mitigation measures cannot be quantified at this time.					

As shown above, after implementation of project features and all feasible mitigation measures, shown below as TRA-1 and TRA-2, the Project would continue to exceed the City’s established VMT thresholds, and therefore the impact is significant and unavoidable.

Mitigation Measures

TRA-1: At time of first sale of each home, the Developer shall remit to the homebuyer one (1) bicycle and bicycle helmet.

TRA-2: One (1) parking stall in Outlot B shall be striped and signed for vanpool and future carsharing purposes.

c) 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)?

See **Appendix B**.

d) Would the project result in inadequate emergency access?

See **Appendix B**.

3.3.4 Cumulative Impacts

Significant and Unavoidable. Transportation impacts, as a result of the Project’s significant unavoidable impact on VMT, would result in a cumulatively considerably impact.

3.4 Tribal Cultural Resources

Table 3-12. Tribal Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.4.1 Environmental Setting and Baseline Conditions

Public Resources Code Section 21080.3.1, et seq. (codification of Assembly Bill 52, (2013-14)) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

Government Code Section 65352.3, et seq. (codification of Senate Bill 18, (2003-2004)) requires that prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation unless a shorter timeframe has been agreed to by the tribe.

Pursuant to PRC § 21080.3. and Gov. Code § 65352.3, the City of Fresno has received letters from the Dumna Wo Wah and Table Mountain Rancheria of California Tribal Governments officially requesting notification. Formal notification was sent to these tribes on June 1, 2021. No responses have yet to be received.

Pursuant to Senate Bill 18 (SB 18), Native American tribes traditionally and culturally affiliated with the project area were invited to consult regarding the project based on a list of contacts provided by the Native American Heritage Commission (NAHC). These tribes included: Big Sandy Rancheria; Cold Springs Rancheria; Dumna Wo Wah; the Dunlap Band of Mono Indians; the Kings River Choinumni Farm Tribe; Picavune Rancheria of Chukchansi Indians; Santa Rosa Rancheria; Table Mountain Rancheria; the Traditional Choinumni Tribe; and the Wuksache Indian Tribe. To date, one response has been received from the Santa Rosa Rancheria Tachi Yokut Tribe on behalf of the Table Mountain Rancheria tribe.

3.4.2 Regulatory Settings

3.4.2.1 Federal

National Historic Preservation Act. The National Historic Preservation Act of 1966 (NHPA) is the most concise and effective federal law dealing with historic preservation. Federal preservation law does not apply to the purpose of this analysis, but a short review of the legislation is needed because the State and Local requirements have been derived from this legislation. The NHPA established guidelines to “preserve important historic, cultural, and natural aspects of our cultural heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice.” The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (known as Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. In addition, the NHPA authorizes the Secretary of the Interior to establish a National Register of Historic Places (The National Register). The Register is an inventory of districts, sites, buildings, structures and objects significant at a national, State, or local level in American history, architecture, archaeology, engineering, and culture. The National Register is wholly maintained by the National Park Service, the Advisory Council on Historic Preservation, and the State Office of Historic Preservation (SHPO) and grants-in-aid programs.

According to the National Park Service (NPS) and the State Historic Preservation Office (SHPO), the City is a Certified Local Government (CLG). The CLG program is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level. The program is jointly administered by NPS and SHPO, with each local community working through a certification process to become recognized as a CLG. CLG’s become an active partner in the Federal Historic Preservation Program and the opportunities (and funding) it provides.

3.4.2.2 State

California Register of Historical Resources. The California Register of Historical Resources (California Register or CRHR) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Important cultural resources can be listed in the California Register through a number of methods, and listing requires approval from the State Historical Resources Commission. Properties can be nominated to the California Register by local governments, private organizations, or citizens. State Historical Landmarks and National Register-listed properties gain automatic listing in the California Register. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. In order for a cultural resource to be significant, or in other words eligible, for listing in the California Register, it must reflect one or more of the following criteria (PRC 5024.1c):

- **Criterion 1 (Events):** Resources that are 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.
- **Criterion 2 (Persons):** Resources that are associated with the lives of persons important to local, California, or national history.

- **Criterion 3 (Architecture):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Environmental Quality Act. CEQA requires that public agencies assess the effects on historical resources of public or private projects that the agencies finance or approve. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

However, only significant historical resources need to be addressed. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

1. Identify potential historical resources.
2. Evaluate the eligibility of historical resources.
3. Evaluate the effects of the project on all eligible historical resources.

In addition, properties that are listed in or eligible for listing in the National Register of Historic Places are considered eligible for listing in the CRHR and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1[d][1]).

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment (State CEQA Guidelines 15064.5[b]). CEQA also states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of an historical resource or its immediate surroundings such that the significance of the resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or materially and adversely alter the physical characteristics of a historical resource that convey its historical significance and qualify or justify its eligibility for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Significant Historical Resources under CEQA Guidelines. In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a). The four categories are:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

These conditions are related to the eligibility criteria for inclusion in the CRHR (PRC Sections 5020.1[k], 5024.1, 5024.1[g]). A cultural resource may be eligible for inclusion in the CRHR if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; Is associated with the lives of persons important in our past;
2. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
3. Has yielded, or may be likely to yield, information important in prehistory or history.

4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.

A lead agency must consider a resource that has been listed in, or determined to be eligible for listing in the California Register (Category 1) as an historical resource for CEQA purposes. In general, a resource that meets any of the other three criteria listed in CEQA Guidelines Section 15064.5(a) is also considered to be a historical resource unless "the preponderance of evidence demonstrates" that the resource is not historically or culturally significant."

State Health and Safety Code. The discovery of human remains is regulated according to California Health and Safety Code Section 7050.5, which states, "If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified to the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify Most Likely Descendant (MLD). With the permission of the landowner or his or her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials."

California Government Code 65352.3-5: Local Government-Tribal Consultation. California Government Code Sections 65092, 65351, 65352, 65352.3, and 65352.4, formally known as Senate Bill (SB) 18, regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption and amendment of general plans.

3.4.2.3 Local

City of Fresno General Plan. The General Plan contains the following objective and policies related to tribal cultural resources:

- **Objective HCR-1:** Maintain a comprehensive, citywide preservation program to identify, protect and assist in the preservation of Fresno's historic and cultural resources.
- **Objective HCR-2:** Identify and preserve Fresno's historic and cultural resources that reflect important cultural, social, economic, and architectural features so that residents will have a foundation upon which to measure and direct physical change.
- **Policy HCR-2-a: Identification and Designation of Historic Properties.** Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno's Local Register of Historic Resources and California and National registries, as appropriate.

- **Policy HCR-2-c: Project Development.** Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.
- **Policy HCR-2-d: Native American Sites.** Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.
- **Policy HCR-2-f: Archaeological Resources.** Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

City of Fresno Municipal Code

Historic Preservation Ordinance. The City of Fresno has established a Historic Preservation Commission and a Local Register of Historic Resources (Fresno Municipal Code, Chapter 12, Article 16). The Ordinance is used to provide local levels of control over the historical aesthetics of cultural resources within the city, and to ensure that the potential impact to locally significant historical resources that may be the subject of redevelopment are given reasonable consideration. The purpose of the Ordinance is to:

[...] continue to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; to continue to protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this city, state and nation; to continue to safeguard the heritage of this city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the city's historic, cultural, social, economic, political and architectural history; to continue to preserve and enhance the environmental quality and safety of these landmarks and districts; to continue to establish, stabilize and improve property values and to foster economic development. (Article 16 Section 12-1602(a).)

The Ordinance provides legislative mechanisms to protect certain historical resources. Local registers of identified historical resources are known, including:

- 1. Heritage Properties.** These are defined as a resource which is worthy of preservation because of its historical, architectural or aesthetic merit but which is not proposed for and is not designated as an Historic Resource under the ordinance.
- 2. Historic Resources.** These are defined as any building, structure, object or site that has been in existence more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling and association, and is associated with events that have made a significant contribution to the broad patterns of city history, or is associated with the lives of persons significant in our past, or embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master or possesses high artistic values; or has yielded, or may be likely to yield, important information in prehistory or history; and has been designated as such by the Council pursuant to the provisions of the Ordinance.
- 3. Local Historic Districts.** These are defined as any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. The Local Historic District must be significant as well as identifiable and it must meet Local Register Criteria for listing on that Register. Contributors to Historic Districts are defined as any Historic Resource that contributes to the significance of the specific Local Historic District or a proposed National Register Historic District under the criteria set forth in the Ordinance.

4. National Register Historic Districts, which shall mean any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. A National Register Historic District must be significant as well as identifiable and it must meet National Register Criteria for listing on that Register. Contributors to a National Register Historic District are defined as any individual Historic Resource which contributes to the significance of a National Register Historic District under the criteria set forth in the Ordinance.

5. Certified Local Government. The Certified Local Government (CLG) Program is administered by the State Historic Preservation Office (OHP). When a Lead Agency becomes a CLG it agrees to carry out the intent of and serve as a local steward of the National Historic Preservation Act and the Secretary of the Interior's Standards. In meeting those standards, OHP serves as an advisor. The use of the National Register/California Register criteria and the Secretary of the Interior Standards integrates local, state, and federal levels of review. It brings clarity to the question of what resources are significant when it comes to CEQA and Section 106 of the National Historic Preservation Act. Adopting the Secretary of the Interior's Standards will allow the use of categorical exemptions under CEQA, and likely result of findings of no adverse effect under Section 106. The use of these criteria and standards make environmental review faster, more efficient, and reduces costs and delays. The City has been certified as a CLG since September 1996.

3.4.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less than Significant Impact with Mitigation Incorporated. Notification of the Project was sent to California Native American tribes listed on the California Native American Heritage Commission (NAHC) list on August 29, 2018, and June 1, 2021. Pursuant to AB 52 and SB 18, the tribes have 30 and 90 days, respectively, to request consultation to disclose, with the lead agency, any potential areas of concern. Although the Cultural Resource Assessment found in Appendix B of **Appendix B** did not find any evidence of resources deemed of cultural value to a California Native American tribe, Table Mountain Rancheria provided responses on both December 11, 2018 and August 25, 2021. As a result of this consultation, CUL-2 and TCR-1 will ensure impacts to tribal cultural resources remain less than significant.

Mitigation Measure

TCR-1: All ground-disturbing activity in the project area shall be monitored by a qualified archaeologist and/or a Native American Monitor selected by representatives of the Table Mountain Rancheria Tribe or, if Table Mountain Rancheria Tribe is unable to provide a monitor, Santa Rosa Rancheria Tachi-Yokut Tribe. The archaeologist or monitor shall be authorized to redirect construction in the event that cultural material is identified in order to assess the find and recommend appropriate treatment. Should the project limits change to include areas outside of the current project area, the new areas will require a supplemental cultural resources survey and evaluation. If any cultural resources are identified during construction activities, a qualified professional archaeologist must be contacted to assess the nature of the find and to determine appropriate mitigation measures.

A pre-grade/pre-construction meeting shall occur prior to commencement of any ground disturbing activities; at which point in time, the contracted archaeologist or monitor shall educate construction crews regarding appropriate methodologies for determining potential presence of cultural resources as well as any other measures deemed necessary during such activities for purposes of ensuring adequate protection of such resources.

a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impact with Mitigation Incorporated. Pursuant to AB 52 and SB 18, the California Native American tribes listed on the California Native American Heritage Commission (NAHC) list were notified of the Project. The tribes were notified on August 29, 2018, and June 1, 2021. The tribes have 30 days in accordance with AB 52 and 90 days in accordance with SB 18 to request consultation to disclose, with the lead agency, any potential areas of concern. Although the Cultural Resource Assessment found in Appendix B of **Appendix B** did not find any evidence of resources deemed of cultural value to a California Native American tribe, responses were received from Table Mountain Rancheria on both December 11, 2018 and August 25, 2021. As a result of this consultation, CUL-2 and TCR-1 discussed above will ensure impacts to tribal cultural resources remain less than significant.

3.4.4 Cumulative Impacts

Less than Significant Impact . Tribal Cultural Resource impacts related to future development in the City involve site-specific impacts. The impacts on each site are specific to that site and its users and would not be in common or contribute to (or shared with, in an additive sense) the impacts on other sites, and as such would not make impacts on the Project site significant. Therefore, cumulative impacts would be considered less than significant

4 Analysis of the Alternatives

4.1 Introduction

CEQA mandates that this EIR identify and analyze a range of alternatives to the Project. The purpose of the alternatives analysis is to foster informed decision-making and public participation; therefore, each alternative is included on the basis of its ability to help decision-makers make a reasoned choice. To this end, the range of alternatives considered in this document need only include “those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects” (CEQA Guidelines Section 15126.6 (d)(2)) of the proposed Project, and which are held to a “rule of reason.” CEQA defines “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors” (CEQA Guidelines Section 15364). The discussion must also include an evaluation of the No Project Alternative to allow decision-makers to compare the impacts of approving the Project against the effects of not approving it.

CEQA Guidelines do not specify what constitutes an adequate level of detail, but they do require that the EIR provide sufficient information to allow meaningful evaluation, analysis, and comparison of each alternative. The EIR must therefore describe the major characteristics and significant environmental effects of the Project as proposed. Quantified information on the alternatives is presented where available; however, in some cases only partial quantification can be provided because of data or analytical limitations.

Finally, the CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project Alternative is the environmentally superior alternative, the EIR must select another alternative from among the alternatives analyzed.

4.2 Alternatives to be Analyzed

The alternatives considered here were developed through and rejected as a result of public scoping meetings and neighborhood comments. Alternative 1 was proposed as a land utilization efficiency measure, whereas Alternative 2 was proposed due to the proposed zone district’s maximum density allowability, allowing for more homes, while also saving space. This chapter describes and evaluates three alternatives to the proposed Vesting Tentative Tract Map No. 6195 Project. The alternatives are referred to as:

- Alternative 1 – This Alternative was rejected but warrants consideration regardless.
- Alternative 2 – This Alternative was rejected but warrants consideration regardless.
- No Project Alternative, which represents the impacts that would result from the continuation of existing conditions.

4.2.1 Alternative 1

Alternative 1 is largely similar to the proposed Project. It would still propose an 89-lot residential subdivision, but by utilizing a reduced footprint of 50% of the subject property. In using half the space to develop 89 units, the remaining acreage would be used for open space.

4.2.2 Alternative 2

Alternative 2 is somewhat similar to the Project in that it proposes a residential subdivision. The difference is that it proposes an increased density, while also utilizing a reduced footprint. Alternative 2 proposes 210 attached single-family dwelling units on 50% of the subject property. With Alternative 2, more housing would be provided, while also utilizing the excess space for open space.

4.2.3 No Project Alternative

The No Project Alternative represents the continuation of current conditions. A new residential subdivision would not be constructed, nor would the existing trail along the San Joaquin River be extended across the north boundary of the subject property. Also, there would be no General Plan amendment or a Rezone for the subject property and the site would remain designated as Open Space, Regional Park and Multi-Use, and Public Facility, PG&E Substation.

4.3 Comparative Impact Analysis of Alternatives

The comparative impact analysis evaluates the impacts that each alternative would have on the environmental issue areas discussed in Chapter Three. Alternatives are compared to one another and to the Project, and impacts are assessed relative to baseline conditions. The assessment uses the same significance criteria applied to the proposed Project in Chapter Three.

4.3.1 Aesthetics

Alternative 1 – Considered but Rejected

Aesthetics under Alternative 1 would be similar to the proposed Project, given that the site would still be developed into an 89 unit subdivision, on half of the site. This alternative would not result in any adverse effects on scenic vistas, and scenic resources would not be damaged.

A notable difference this alternative presents would be the distance that development would occur from the San Joaquin River and the scenic values that it possesses. However, this alternative would not address concerns with nighttime lighting. The Project would still introduce a new substantial source of lighting as a result of 89 new homes being built.

Alternative 2 – Considered but Rejected

Impacts to aesthetics under Alternative 2 would be similar to the proposed Project. The site would be developed into a denser subdivision of 210 homes on half of the site. This alternative would not result in any adverse effects on scenic vistas, and scenic resources would not be damaged.

While the Project would be developed further from the San Joaquin River and the scenic resources it possesses under this alternative, it would still result in a substantial increase in nighttime lighting sources to the Project site. This alternative would have a higher volume of lighting introduced to the area than Alternative 1 due to the construction of more houses.

No Project Alternative

Under the No Project Alternative, the Project site would continue to be vacant. The existing scenic vistas and resources would remain unchanged. The visual character of the site would not be altered. No new lighting or glare would result, as the No Project Alternative would not involve the installation of any facilities that require lighting. There would be no impacts to aesthetic resources.

4.3.2 Agriculture and Forestry Resources

Alternative 1 – Considered but Rejected

Impacts to agriculture and forestry resources under Alternative 1 would be equivalent to the proposed Project. Alternative 1 would not convert farmland to non-agricultural use, nor would it conflict with any zoning for agricultural use or any Williamson Act contract. The subject property has been historically used for agricultural purposes, but that stopped around the year 1985. Alternative 1 proposes a residential development utilizing 50% of the property being used for the proposed Project. Alternative 1 would not result in a significant impact to agricultural and forestry resources.

Alternative 2 – Considered but Rejected

Impacts to agriculture and forestry resources under Alternative 2 would be equivalent to the proposed Project. Alternative 2 would not convert farmland to non-agricultural use, nor would it conflict with any zoning for agricultural use or any Williamson Act contract. The subject property has been historically used for agricultural purposes, but that stopped around the year 1985. Compared to the Project, Alternative 2 proposes a higher density residential development utilizing 50% of the property being used. Alternative 2 would not result in a significant impact to agricultural and forestry resources.

No Project Alternatives

The No Project Alternatives would not have a significant impact on agriculture and forestry resources as it would not involve the conversion and rezoning of farmland as the Project site is designated as Open Space and Public Facility. No forests are present within the boundaries of the proposed Project area to result in forest conversion impacts.

4.3.3 Air Quality

Alternative 1 – Considered but Rejected

Air Quality Impacts under Alternative 1 would be largely similar to the proposed Project, given the same amount of construction, however on less land. Alternative 1 would not result in a significant impact and would be phased similarly to not exceed air quality thresholds.

Alternative 2 – Considered but Rejected

Air Quality Impacts under Alternative 2 would be slightly more than the proposed Project, given the increase in dwelling units to be constructed, and the increase of automobiles expected to be utilized. Alternative 2 would likely require air quality offsets through Rule 9410 of the San Joaquin Valley Air Pollution Control District. Alternative 2 would not result in a significant impact.

No Project Alternative

The No Project Alternative would result in no impact. The Project site would not undergo construction, which is the primary source of air quality concern for the proposed Project. Therefore, the No Project Alternative would not conflict with or obstruct implementation of any applicable air quality plans, violate any air quality standards, expose sensitive receptors to air pollution, create objectionable odors or result in a cumulative net increase of any criteria pollutant.

4.3.4 Biological Resources

Alternative 1 – Considered but Rejected

Impacts to biological resources under Alternative 1 would be equivalent to the proposed Project. Half of the amount of land would be utilized for the construction of Alternative 1, converting marginal habitat for resident

species, including special status species, such as the burrowing owl, Swainson's hawk, San Joaquin kit fox, and American badger.

Although habitat would be converted, Alternative 1 would not result in any further loss of potential habitat.

Alternative 2 – Considered but Rejected

Impacts to biological resources under Alternative 2 would be equivalent to the proposed Project. Half of the amount of land would be utilized for the construction of Alternative 2, converting marginal habitat for resident species, including special status species, such as the burrowing owl, Swainson's hawk, San Joaquin kit fox, and American badger.

Although habitat would be converted, Alternative 2 would not result in any further loss of potential habitat.

No Project Alternative

No biological resources would be impacted by the implementation of the No Project Alternative. With a lack of land conversion and construction at the proposed Project site, no biological resources currently available would be compromised. As a result of no land conversion taking place, no habitats, jurisdictional waters, native or migratory wildlife will be impacted. Therefore, there would be no conflicts with any local, regional, State, or federal policies.

4.3.5 Cultural Resources

Alternative 1 – Considered but Rejected

Impacts to cultural resources under Alternative 1 would be equivalent to the proposed Project. While less land would be utilized to construct Alternative 1, like the proposed Project, Alternative 1 would have to comply with all federal, State, and local regulations pertaining to cultural resources. Construction and operation of the rejected alternative would result in equivalent impacts to cultural resources.

Alternative 2 – Considered but Rejected

Impacts to cultural resources would be equivalent to the proposed Project under Alternative 2. While less land would be utilized to construct Alternative 2, like the proposed Project, Alternative 2 would have to comply with all federal, State, and local regulations. Construction and operation of the rejected alternative would result in equivalent impacts to cultural resources.

No Project Alternative

Under the No Project Alternative, potential cultural resources will not be removed, altered, or compromised. The lack of construction would also prevent the opportunity to disturb human remains.

4.3.6 Geology and Soils

Alternative 1 – Considered but Rejected

Impacts to geology and soils under Alternative 1 would be less to those posed by the proposed Project. Although construction of Alternative 1 would have a reduced footprint, developing 50% of the lot and include the same components as the proposed Project, it is subject to the same minimal risks of seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides.

Construction of the rejected alternative would result in equivalent risk of erosion; the generally flat terrain of the location indicates that this risk is less than significant. Like the proposed Project, the alternative would be constructed following the standards and policies set forth in the Bluff Protection Overlay District of the City of Fresno Municipal Code. Following these standards would limit risks that the alternative could present towards erosion, subsidence and landslide near the bluff area to the north. This will ensure that impacts remain less than significant.

As there are no expansive soils located under the proposed site, no risks to life or property are posed. Alternative 1 does not involve a septic tank or alternative sewer system; therefore, no impacts will be posed by any soil incapability of supporting such components.

Alternative 2 – Considered but Rejected

Impacts to geology and soils under Alternative 2 would be less as those posed by the proposed Project. Construction of Alternative 1 would have a reduced footprint, developing 50% of the lot and would introduce 210 new homes to the site instead of the proposed 89. It would include the same components as the proposed Project, and it is subject to the same minimal risks of seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides.

Construction of the rejected alternative would result in equivalent risk of erosion; the generally flat terrain of the location indicates that this risk is less than significant. Like the proposed Project, the alternative would be constructed following the standards and policies set forth in the Bluff Protection Overlay District of the City of Fresno Municipal Code. Following these standards would limit risks that the alternative could present towards erosion, subsidence and landslide near the bluff area to the north. This will ensure that impacts remain less than significant.

As there are no expansive soils located under the proposed site, no risks to life or property are posed. Alternative 2 does not involve a septic tank or alternative sewer system; therefore, no impacts will be posed by any soil incapability of supporting such components.

No Project Alternative

The No Project Alternative would not result in construction; therefore, no ground disturbance would take place that could provide opportunities for structural damage or soil erosion. The No Project Alternative would not result in impacts related to geology and soils.

4.3.7 Greenhouse Gas Emissions

Alternative 1 – Considered but Rejected

Since it contains the same project components as the proposed Project, Alternative 1 would generate an equivalent amount of GHG emissions from short-term construction and long-term operations. Impacts would be the same as the proposed Project.

Alternative 2 – Considered but Rejected

Alternative 2 would result in greater greenhouse gas emissions due to the provision of 121 additional dwelling units. However, Alternative 2 would still be required to comply with the existing policies of the City of Fresno Greenhouse Gas Reduction Plan. Impacts would be greater than the proposed Project.

No Project Alternative

Under the No Project Alternative, there would be no construction or operations that would result in any GHG emissions. There would be no impact.

4.3.8 Hazards and Hazardous Materials

Alternative 1 – Considered but Rejected

Similarly to the proposed Project, construction of Alternative 1 would involve the use of small quantities of hazardous materials in conjunction with the proposed residential use, however, these materials would be limited in type and quantity and would not be different from household chemicals and solvents already being used in households throughout the vicinity and the City. The site is not located on a hazardous materials site, is not

located within any airport safety zones or influence areas and is not located within the immediate vicinity of a private airstrip. Construction and operation would not obstruct any adopted emergency response or evacuation plans, nor would it result in exposure to risk related to wildland fires.

Alternative 2 – Considered but Rejected

Similarly to the proposed Project, construction of Alternative 2 would involve the use of small quantities of hazardous materials in conjunction with the proposed residential use, however, these materials would be limited in type and quantity and would not be different from household chemicals and solvents already being used in households throughout the vicinity and the City. The site is not located on a hazardous materials site, is not located within any airport safety zones or influence areas and is not located within the immediate vicinity of a private airstrip. Construction and operation would not obstruct any adopted emergency response or evacuation plans, nor would it result in exposure to risk related to wildland fires.

No Project Alternative

The proposed Project's No Project Alternative would result in no contribution of hazards or hazardous materials. The land is currently vacant. The current conditions of the proposed Project site do not create significant hazards to the public or environment or expose individuals to a significant risk of wildland fires. The area is not located within a hazardous materials site or located within a significantly close distance to an airstrip or airport land. The current layout of the proposed Project area does not impair or interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the No Project Alternative would not result in hazardous materials or hazard impacts.

4.3.9 Hydrology and Water Quality

Alternative 1 – Considered but Rejected

Implementation of Alternative 1 would result in similar changes in existing drainage patterns. Alternative 1 proposes a ponding facility on site and it will be required to comply with State regulations. This Alternative will connect to the City's existing water system and will utilize surface and groundwater for domestic purposes, but it will not significantly lower the groundwater table of the aquifer. As proposed with the Project, Alternative 1 will alter the existing drainage pattern and increase the rate of runoff with impervious surfaces, but it will be required to comply with State regulations and direct drainage to the proposed on-site basin, therefore the impact would be less than significant.

Alternative 2 – Considered but Rejected

Implementation of Alternative 2 would result in somewhat similar drainage patterns. Alternative 2 proposes a ponding facility on site and it will be required to comply with State regulations, just as the Project proposes. Although, Alternative 2 would utilize more surface and groundwater with more units proposed, the amount of water used is not considered significant and will not significantly lower the groundwater table of the aquifer. As proposed with the Project, Alternative 2 will alter the existing drainage pattern and increase the rate of runoff with impervious surfaces, but it will be required to comply with State regulations, therefore the impact would be less than significant.

No Project Alternative

Under the No Project Alternative there would not be any construction and the Project site would remain vacant. The lack of action under the No Project Alternative would not expose people or structures to risk, result in potential inundation, or negatively impact the water quality or hydrology of the proposed Project area and surrounding environment.

4.3.10 Land Use and Planning

Alternative 1 – Considered but Rejected

Implementation of Alternative 1 would involve the same components relevant to land use and planning as the proposed Project. The location would be identical, therefore avoiding any division of existing communities. The General Plan Amendment included in both the proposed Project and the rejected alternative would ensure that the planned land use for the site is Residential Medium Density, under which the project is allowed. The rezone included in both the proposed Project and the rejected alternative would ensure that the site is zoned for Residential Single Family, Medium Density/Bluff Protection/Urban Growth Management, under which the project is allowed. There are no applicable habitat conservation plans or natural community plans within the vicinity of the site, therefore there will not be an impact.

Alternative 2 – Considered but Rejected

Implementation of Alternative 2 would involve the same components relevant to land use and planning as the proposed Project. The location would be identical, therefore avoiding any division of existing communities. The General Plan Amendment included in both the proposed Project and the rejected alternative would ensure that the planned land use for the site is Residential Medium Density, under which the project is allowed. The rezone included in both the proposed Project and the rejected alternative would ensure that the site is zoned for Residential Single Family, Medium Density/Bluff Protection/Urban Growth Management, under which the project is allowed. There are no applicable habitat conservation plans or natural community plans within the vicinity of the site, therefore there will not be an impact.

No Project Alternative

The No Project Alternative would not result in changes in land use and planning. The Project site would remain planned and zoned for regional parks, open space, and public facilities. No physical divide would occur within the established community and there would not be a conflict with any applicable land use plan, policy, or regulation intending to uphold environmental stewardship or with any applicable habitat conservation plan or natural community conservation plan. The No Project Alternative would not result in any impacts related to land use and planning.

4.3.11 Mineral Resources

Alternative 1 – Considered but Rejected

As with the proposed Project, construction of Alternative 1 would involve the construction of an 89-lot residential subdivision within an MRZ-3a zone. However, no component of the Project site is currently being mined for mineral resources. Therefore, resource availability would not be reduced as a result of Alternative 1.

Alternative 2 – Considered but Rejected

As with the proposed Project, construction of Alternative 2 would involve the construction of a 210-lot residential subdivision within an MRZ-3a zone. However, no component of the Project site is currently being mined for mineral resources. Therefore, resource availability would not be reduced as a result of Alternative 2.

No Project Alternative

The No Project Alternative will not result in the loss of a known mineral, despite the presence of an MRZ-3a zone within the proposed Project area. Any important mineral resources would not be removed; thus, they would not be made unavailable. The No Project Alternative would not result in any significant impacts regarding mineral resources.

4.3.12 Noise

Alternative 1 – Considered but Rejected

Alternative 1 proposes 89 lots on 50% of the Project site. Development activities associated with buildout of Alternative 1 could potentially result in a temporary or periodic increase in ambient noise levels in the project vicinity, but construction activity would be exempt from City of Fresno noise regulations, as long as such activity is conducted pursuant to an applicable construction permit and occurs between 7:00 a.m. and 10:00 p.m., excluding Sunday. Activities involved in construction would generate maximum noise levels ranging from 77 to 85 dB at a distance of 50 feet. Construction activities will be temporary in nature and are expected to occur during normal daytime working hours in compliance with the City Noise Ordinance. The impact would be less than significant.

Alternative 2 – Considered but Rejected

Alternative 2 proposes 210 lots on 50% of the Project site. Development activities associated with buildout of Alternative 1 could potentially result in a temporary or periodic increase in ambient noise levels in the project vicinity, but construction activity would be exempt from City of Fresno noise regulations, as long as such activity is conducted pursuant to an applicable construction permit and occurs between 7:00 a.m. and 10:00 p.m., excluding Sunday. Activities involved in construction would generate maximum noise levels ranging from 77 to 85 dB at a distance of 50 feet. Construction activities will be temporary in nature and are expected to occur during normal daytime working hours in compliance with the City Noise Ordinance. The impact would be less than significant.

No Project Alternative

Currently, the Project site is vacant with no noise generators. The No Action Alternative would not involve construction or operation of residential uses, resulting in a static level of noise pollution. The No Project Alternative would keep existing conditions as is and not result in any noise impacts.

4.3.13 Population and Housing

Alternative 1 – Considered but Rejected

Given that Alternative 1 contains the same components as the proposed Project, it will have the same level of impact on population and housing concerns. The facilities constructed under Alternative 1 are intended to address expected growth rather than induce it. No housing or people would be displaced.

Alternative 2 – Considered but Rejected

Although Alternative 2 would result in an increase of 371 additional residents in comparison to the Project, it will have a similar level of impact on population and housing concerns. The facilities constructed under Alternative 2 are intended to address expected growth rather than induce it. No housing or people would be displaced.

No Project Alternative

The No Project Alternative would not result in the further development or population growth directly or indirectly within the Project area. No new businesses, homes, or extended infrastructure would be constructed

and no displacement of existing housing or individuals would occur. There would be no impacts associated with population and housing.

4.3.14 Public Services

Alternative 1 – Considered but Rejected

Alternative 1, would generate the same number of dwelling units, and therefore require the same amount of public services. Impacts would be less than significant.

Alternative 2 – Considered but Rejected

Alternative 2, would create a larger demand on public services due to the increase in dwelling units. However, the increase in dwelling units would not be great enough to render the Project unserviceable. Payment of impact fees would increase due to the increase in dwelling units which would be proportional to the Project, which would offset the cost of additional services required to be provided. Impacts would be less than significant.

No Project Alternative

Under the No Action Alternative, there would not be a need for new or physically altered government facilities in order to maintain adequate service ratios, response times, or other performance objectives for public services. No road or structural construction would occur under; therefore, there would be no effects to fire and police protection routes. There would be no additional need for schools, parks or other public facilities. Therefore, there are no impacts to public services.

4.3.15 Recreation

Alternative 1 – Considered but Rejected

Implementation of Alternative 1 would continue to construct a park. The loss in General Plan-designated regional park land would continue to be the same, however cumulative impacts would still be less than significant. The impacts are similar to those of the proposed Project. Impacts to recreational facilities would remain less than significant.

Alternative 2 – Considered but Rejected

Implementation of Alternative 2 would continue to construct a park, though larger due to the increase in dwelling units. The loss in regional park land would continue to be the same, however cumulative impacts would still be less than significant. The impacts are similar to those of the proposed Project. Impacts to recreational facilities would remain less than significant.

No Project Alternative

Under the No Project Alternative, no regional park nor residential would be developed. Therefore, the land would be available for development at a future as regional park as currently designated.

4.3.16 Transportation

Alternative 1 – Considered but Rejected

Given that Alternative 1 contains the same housing components and would facilitate the same activities as the proposed Project, it will result in the same impacts. Impacts to vehicle miles traveled would remain significant and unavoidable.

Alternative 2 – Considered but Rejected

Given that Alternative 2 contains over double the density of the proposed Project, it would result in greater vehicle miles traveled. Impacts to vehicle miles traveled would be greater than the proposed Project, and continue to be significant and unavoidable. All other transportation impacts would be comparable to the proposed Project.

No Project Alternative

The No Project Alternative would not result construction of homes that would require transportation routes or facilities that would alter current traffic circulation. Accordingly, the No Project Alternative would not conflict with an applicable plan, ordinance, or policy intended to protect the effectiveness of traffic circulation. No changes in transportation routes would occur, and emergency access points and routes would not be affected. There would be no conflict with any pedestrian, public transport, or bicycle policies, plans, or programs.

4.3.17 Tribal Cultural Resources

Alternative 1 – Considered but Rejected

Implementation of Alternative 1 would have identical impacts to Tribal Cultural Resources as the proposed Project. Both Alternative 1 and the proposed Project would involve ground disturbance. Impacts would be comparable to the proposed Project and continue to require mitigation.

Alternative 2 – Considered but Rejected

Implementation of Alternative 2 would have identical impacts to Tribal Cultural Resources as the proposed Project. Both Alternative 2 and the proposed Project would involve ground disturbance. Impacts would be comparable to the proposed Project and continue to require mitigation.

No Project Alternative

The No Project Alternative would not result in construction of a residential subdivision and associated infrastructure. Therefore, no ground disturbance would occur and there would be no possibility of an impact to Tribal Cultural Resources.

4.3.18 Utilities and Service Systems

Alternative 1 – Considered but Rejected

Implementation of Alternative 1 would have identical impacts to utilities and service systems as the proposed Project. Wastewater treatment requirements would not be exceeded, and it would not be necessary to construct any new facilities for water or wastewater treatment purposes., Storm water drainage facilities would continue to be required to manage storm water runoff from the Project site but would be slightly smaller due to the reduction in developed area.

Alternative 2 – Considered but Rejected

Implementation of Alternative 2 would have greater impacts to utilities and service systems than the proposed Project. It is not anticipated that existing infrastructure could not accommodate a greater dwelling unit count. Therefore, wastewater treatment requirements would not be exceeded, and it would not be necessary to construct any new water or wastewater treatment facilities. Storm water drainage facilities would continue to be required to manage storm water runoff from the Project site, but would be slightly smaller due to the reduction in developed area.

No Project Alternative

The No Project Alternative would not result in construction of infrastructure or facilities. Therefore, no additional wastewater would be generated and no water, wastewater treatment, or storm water drainage facilities

would need to be developed or expanded. No additional waste that would impact landfill capacity would be generated. The No Project Alternative would ultimately not result impacts to utilities and service systems.

4.3.19 Wildfire

Alternative 1 – Considered but Rejected

Implementation of Alternative 1 would result in similar risks of potential wildfire impacts as the proposed Project. While the alternative would result in a reduced footprint on the site, wildfire risks would remain comparable to the proposed Project. Alternative 1 would not be located near a State responsibility area or an area classified as a very high fire hazard severity zone. In addition, the alternative would be subject to any conditions of approval set by the City of Fresno Fire Department. Therefore, impacts would be less than significant under this alternative.

Alternative 2 – Considered but Rejected

Implementation of Alternative 2 would result in similar risks of potential wildfire impacts as the proposed Project. While the alternative would result in a reduced footprint on the site, the same upset conditions would remain as the proposed Project. Alternative 2 would not be located near a State responsibility area or an area classified as a very high fire hazard severity zone. In addition, the alternative would be subject to any conditions of approval set by the City of Fresno Fire Department. Therefore, impacts would be less than significant under this alternative.

No Project Alternative

The No Project Alternative would result in no construction activity on the site and the site would remain vacant. The absence of construction would not result in possible upset conditions during Project development that could cause a spark and result in a wildfire on site. The No Project Alternative would result in no impacts to wildfire.

4.4 Alternative Determination

CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR. The Guidelines also require that if the No Project alternative is identified as the environmentally superior alternative, then another environmentally superior alternative must be identified. **Table 4-1** provides, in summary format, a comparison of the level of impacts for each alternative to the proposed project. The Proposed Project has the least impact to the environment because it would result in fewer impacts to public services and vehicle miles traveled.

CEQA Guidelines Section 15041(c), Authority to Mitigate, states, “With respect to a project which includes housing development, a Lead or Responsible Agency shall not reduce the proposed number of housing units as a mitigation measure or alternative to lessen a particular significant effect on the environment if that agency determines that there is another feasible, specific mitigation measure or alternative that would provide a comparable lessening of the significant effect.” While fewer housing units proposed would decrease VMT, the established threshold of significance is an efficiency metric. Therefore, reducing the number the housing units does not reduce the Project’s VMT per Capita.

Table 4-1. Comparison of the Environmental Impacts of the Proposed Project and the Project Alternatives

Environmental Topic	Proposed Project Level of Impact After Mitigation	Alternative 1: Develop Half of Property, Same Density	Alternative 2: Develop Half of Property, Maximum Density	No Project Alternative
Aesthetics	Less than Significant	Similar	Similar +	Fewer
Agriculture and Forestry Resources	Less than Significant	Similar	Similar	Fewer
Air Quality	Less than Significant	Similar	Similar +	Fewer
Biological Resources	Less than Significant	Similar -	Similar	Fewer
Cultural Resources	Less than Significant	Similar -	Similar	Fewer
Geology and Soils	Less than Significant	Similar	Similar	Fewer
Greenhouse Gas Emissions	Less than Significant	Similar	Greater	Fewer
Hazards and Hazardous Materials	Less than Significant	Similar	Similar	Fewer
Hydrology and Water Quality	Less than Significant	Similar -	Similar +	Fewer
Land Use and Planning	Less than Significant	Similar	Similar	Fewer
Mineral Resources	Less than Significant	Similar	Similar	Fewer
Noise	Less than Significant	Similar	Similar +	Fewer
Population and Housing	Less than Significant	Similar	Similar	Fewer
Public Services	Less than Significant	Similar	Greater	Fewer
Recreation	Less than Significant	Fewer	Greater	Fewer
Transportation	Significant and Unavoidable	Similar	Greater	Fewer
Utilities and Service Systems	Less than Significant	Similar	Similar +	Fewer
Attainment of Project Objectives	Meets all of the Project Objectives	Does Not Meet All Project Objectives	Does Not Meet All Project Objectives	Does Not Meet Project Objectives

Greater = Greater Impacts than the Proposed Project

Fewer = Fewer Impacts than the Proposed Project

Similar = Similar Impacts than the Proposed Project

Similar - = Similar, although incrementally fewer impacts as compared to the proposed project

Similar + = Similar, although incrementally greater impacts as compared to the proposed project

5 Other Mandatory CEQA Sections

This section discusses additional topics statutorily required by the California Environmental Quality Act (CEQA) be discussed in an EIR. The topics discussed include significant and unavoidable environmental impacts and growth-inducing impacts.

5.1 Organizations and Persons Consulted

5.1.1 Agencies

See [Appendix A](#)

5.1.2 Other Persons

The City of Fresno noticed all residents within 1,000 feet of the Project. See [Appendix A](#).

5.1.3 List of Preparers

Dawn E. Marple, Principal Planner

Mallory Serrao, GIS Specialist

Jackie Lancaster, Project Administrator

Briza Sholars, Senior Planner

Jarred Olsen, Associate Planner

Lizbeth Avitia, Assistant Planner

Wyatt Czesinski, Assistant Planner

Ryan McKelvey, Assistant Planner

5.1.4 Subconsultants

LSA, Associates, Air Quality, Greenhouse Gas

Argonaut Ecological Consulting, Inc., Biological Resources

Peak & Associates, Inc., Cultural Resources

Krazan & Associates, Inc., Geotechnical Engineering Investigation

WJV Acoustics, Acoustical Analysis

Precision Civil Engineering, Inc., Phase 1 Environmental Site Assessment

JLB Traffic Engineering Inc., Transportation

5.2 Significant and Unavoidable Environmental Effects

CEQA Guidelines Section 15126.2(b) requires that an EIR discuss unavoidable significant environmental effects, including those that can be mitigated but not to a level of less than significance.

CEQA Guidelines Section 15093(a) allows the decision-making agency to determine if the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing the project. The City can approve a project with unavoidable adverse impacts if it prepares a “Statement of Overriding Considerations” setting forth the specific reasons for making such a judgment. A list of unavoidable adverse impacts identified in this EIR is provided below.

Vehicle Miles Traveled generated by the Project will exceed the thresholds established by the City of Fresno. VMT-reducing project features include construction of a trail and the provision of sidewalks. Construction of bicycle lanes consistent with the City’s Active Transportation Plan is technologically infeasible at this time. Additional mitigation measures could include the monthly provision of transit passes or the extension of transit lines. The monthly provision of reduced-cost or free transit passes would not be effective due to the existing distance from the Project to the nearest transit line. Furthermore, transit pass costs would be passed directly onto the homebuyer, most likely through the inclusion in a Home Owner’s Association or approximately 30 years paid upfront. A new bus line serving the development would be significantly expensive and its costs could not be borne fully by the development. These options are likely to incur a large additional cost onto the homebuyer, further increasing home prices to a level unlikely to be affordable.

5.3 Growth Inducement

CEQA Guidelines Section 15126(d) states the following regarding evaluation in the EIR of growth-inducing impact of the proposed Project.

Growth-Inducing Impact of the Proposed Project. Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

5.3.1 Growth Inducement Potential

Century Communities of California, LLC proposes the development of the Vesting Tentative Tract Map No. 6195 (Project). The intent of the Project is to provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area. The Fresno Housing Element estimates each household is composed of 3.07 persons. With the construction of the 89-lot residential subdivision, the Project would house approximately 272 people which does have the potential to increase growth in the City of Fresno. The 2035 Fresno General Plan estimated a population buildout of 970,000 persons in 2056. However, a 2019 Fresno Council of Governments growth projection analysis showed that Fresno is anticipated to increase in population to approximately 868,000 persons at an average annual rate of 1.03%. Further extrapolation would likely bring this population to 927,000 in 2056. As a result, implementation of the Project would likely result in a population analyzed under the 2035 General Plan and thus the unplanned population growth would not be substantial.

6 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings in Chapter 3 – Impact Analysis - of this Environmental Impact Report (EIR) for the Project. The MMRP lists mitigation measures recommended for the proposed Project and identifies monitoring and reporting requirements and responsible parties.

Table 6-1 presents the mitigation measures identified for the Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, BIO-1 would be the first mitigation measure identified in the Biological Resources analysis of the EIR.

The first column of **Table 6-1** identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of which the monitoring of the mitigation measure should occur. The fourth column, “Agency Responsible for Monitoring,” names the party responsible for ensuring that the mitigation measure is properly implemented. The last columns will be used by the City of Fresno (City) as a check-off tool to ensure that and when individual mitigation measures have been complied with and monitored.

Table 6-1. Mitigation and Monitoring Reporting Program

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Aesthetics					
AES – 1					
Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.	Prior to issuance of construction permits	Once	City of Fresno	Submittal of Building Permit	
AES – 2					
Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties.	Prior to issuance of construction permits	Once	City of Fresno	Submittal of Improvement Plans	
AES – 3					
Materials used on building facades shall be non-reflective.	Prior to issuance of construction permits	Once	City of Fresno	Submittal of Building Permit	
Air Quality					
AIR – 1					
Consistent with SJVAPCD Regulation VIII (Fugitive PM10 Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site: <ul style="list-style-type: none"> 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. 	Prior to issuance of construction permits	Once	City of Fresno	Submittal of an approved Dust Control Plan	

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<ul style="list-style-type: none"> All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. 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. 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.) Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant. 					
Biological Resources					
BIO – 1					
If possible, construction/grading should begin between September 1st – January 31st to avoid starting construction during the nesting period.	If construction activities occur between September 1 st and January 31 st	Once	City of Fresno	Submittal of Grading Permit	

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO – 2					
If construction is initiated between February 1st and August 30th, a pre-construction survey shall be conducted for active raptor nests along the top of the San Joaquin River bank (there are no other trees on the site). If any active raptor nest is encountered, then a buffer zone shall be established (based on the biologist recommendations) and monitoring performed to watch for potential nest abandonment. If the nesting pair shows signs of pending nest abandonment, then the biologist must consult with the CDFW to determine what further actions are needed to prevent abandonment.	If construction activities occur between February 1 st and August 30 th	Once	City of Fresno	Submittal of Pre-Construction Survey	
BIO – 3					
No more than 30 days prior to construction, a biologist shall inspect the site to determine whether burrowing owl, American badger, or San Joaquin kit fox have taken up residence. Consultation with the appropriate regulatory agencies (USFWS/CDFW) shall be initiated if any of these species are found on the site.	Within 30 days prior to Construction	Once	City of Fresno	Report from Biologist	
BIO – 4					
At the start of construction, the work crew shall be educated on the potential for special status species to be encountered. The training shall include species information (burrowing owl, San Joaquin kit fox, American badger) and avoidance and protection measures to be taken if encountered.	At the start of construction	Once	City of Fresno	Report from Biologist	

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO – 5					
Prior to any ground disturbance, bright orange fencing shall be installed along the riparian bluff (top of bank) to keep any construction activities (equipment staging, parking, laydown of materials) from encroaching into the riparian/bluff zone.	Prior to any ground disturbance	Once	City of Fresno	City Inspector	
Cultural Resources					
CUL – 1					
Should archaeological remains or artifacts be unearthed during any stage of Project activities, work in the area of discovery shall cease until the area is evaluated by a qualified archaeologist. If additional mitigation is warranted, the Project proponent shall abide by recommendations of the archaeologist.	If archaeological remains or artifacts are unearthed	Continuously	City of Fresno	Construction Contractor	
CUL – 2					
In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains until the Fresno County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the Fresno County Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the	If human remains are uncovered or discovered	Continuously	City of Fresno	Construction Contractor	

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<p>human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).</p> <p>After notification, the NAHC will follow the procedures outlined in Public Resources Code Section 5097.98, that include notification of most likely descendants (MLDs), and recommendations for treatment of the remains. The MLDs will have 24 hours after notification by the NAHC to make their recommendations (PRC Section 5097.98).</p>					
Geology and Soils					
GEO-1					
<p>Prior to issuance of grading and building permits, the Project shall comply with the recommendations of the Geotechnical Engineering Investigation, Seismic Design Requirements Update, and its Addendum.</p>	<p>Prior to issuance of grading and building permits</p>	<p>Once</p>	<p>City of Fresno</p>	<p>Verification by staff</p>	
Greenhouse Gases					
GHG-1					
<p>Consistent with the City of Fresno's 2014 GHG Reduction Plan, the Project Applicant shall incorporate the following design features as part of the proposed project:</p> <ul style="list-style-type: none"> • Ensure that the street and pedestrian design complies with the complete streets concepts. • Review project against Development Code for mandatory design features required for the project. • Install alternative energy generation, such as solar. Review water conservation building and landscape design features for compliance with City water conservation standards. 	<p>Prior to final map approval</p> <p>Prior to approval of building permits</p>	<p>Twice</p>	<p>City of Fresno</p>	<p>Verification by staff</p>	

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<ul style="list-style-type: none"> Maintain and enhance connections to regional bikeways and trail system. Complete the latest version of the Fresno Green Residential Checklist, meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Programs, or qualify for Build It Green's GreenPoint rating system for residential buildings. 					
Transportation					
TRA-1					
At time of first sale of each home, the Developer shall remit to the homebuyer one (1) bicycle and bicycle helmet.	Prior to first sale	Once	City of Fresno		
TRA-2					
One (1) parking stall in Outlot B shall be striped and signed for vanpool and future carsharing purposes.	Prior to final map approval	Once	City of Fresno		
Tribal Cultural Resources					
TCR-1					
All ground-disturbing activity in the project area shall be monitored by a qualified archaeologist and/or a Native American Monitor selected by representatives of the Table Mountain Rancheria Tribe or, if Table Mountain Rancheria Tribe is unable to provide a monitor, Santa Rosa Rancheria Tachi-Yokut Tribe shall provide a monitor during all ground disturbing activities. The archaeologist or monitor shall be authorized to redirect construction in the event that cultural material is identified in order to assess the find and recommend appropriate treatment. Should the project limits change to include areas outside of the current project area, the new areas will require a supplemental cultural resources survey and evaluation. If any cultural resources are identified during construction activities, a qualified professional archaeologist must	Prior to commencement of ground disturbing activities	Once	City of Fresno		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<p>be contacted to assess the nature of the find and to determine appropriate mitigation measures.</p> <p>A pre-grade/pre-construction meeting shall occur prior to commencement of any ground disturbing activities; at which point in time, the contracted archaeologist or monitor shall educate construction crews regarding appropriate methodologies for determining potential presence of cultural resources as well as any other measures deemed necessary during such activities for purposes of ensuring adequate protection of such resources.</p> <p>An archaeological record search shall be completed through the CHRIS Center and through NAHC. In addition, a Burial Treatment Plan and Curation Agreement shall be put in place to be approved by the Table Mountain Rancheria, or if unavailable, the Santa Rosa Rancheria Tachi-Yokut Tribe.</p>					

Appendix A

Notice of Preparation



State of California - Department of Fish and Wildlife
2021 ENVIRONMENTAL FILING FEE CASH RECEIPT
 DFW 753.5a (REV. 01/01/21) Previously DFG 753.5a

RECEIPT NUMBER:
E202110000128
 STATE CLEARINGHOUSE NUMBER (if applicable)

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY CITY OF FRESNO	LEAD AGENCY EMAIL	DATE 06/04/2021
COUNTY/STATE AGENCY OF FILING FRESNO COUNTY	DOCUMENT NUMBER E202110000128	

PROJECT TITLE
TAPESTRY III TRACT 6195

PROJECT APPLICANT NAME CITY OF FRESNO, PLANNING AND DEVELOPMENT DEPT	PROJECT APPLICANT EMAIL	PHONE NUMBER (559) 621-8056
PROJECT APPLICANT ADDRESS 2600 FRESNO ST, ROOM 3065	CITY FRESNO	STATE CA
		ZIP CODE 93721

PROJECT APPLICANT (Check appropriate box)

Local Public Agency
 School District
 Other Special District
 State Agency
 Private Entity

CHECK APPLICABLE FEES:

<input type="checkbox"/> Environmental Impact Report (EIR)	\$3,445.25	\$	<u>0.00</u>
<input type="checkbox"/> Mitigated/Negative Declaration (MND)(ND)	\$2,480.25	\$	<u>0.00</u>
<input checked="" type="checkbox"/> Certified Regulatory Program (CRP) document - payment due directly to CDFW	\$1,171.25	\$	<u>0.00</u>
<input type="checkbox"/> Exempt from fee			
<input type="checkbox"/> Notice of Exemption (attach)			
<input type="checkbox"/> CDFW No Effect Determination (attach)			
<input type="checkbox"/> Fee previously paid (attach previously issued cash receipt copy)			
<hr/>			
<input type="checkbox"/> Water Right Application or Petition Fee (State Water Resources Control Board only)	\$850.00	\$	<u>0.00</u>
<input type="checkbox"/> County documentary handling fee	\$50.00	\$	<u>0.00</u>
<input type="checkbox"/> Other		\$	<u>0.00</u>

PAYMENT METHOD:

Cash
 Credit
 Check
 Other

TOTAL RECEIVED \$ 0.00

SIGNATURE X  Dakota Thurston	AGENCY OF FILING PRINTED NAME AND TITLE Dakota Thurston Deputy Clerk
-----------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------



E202110000129

2600 Fresno Street, Room 3065
Fresno, California 93721-3604
(559) 621-8003
www.fresno.gov

Planning and Development Department

Jennifer K. Clark, AICP, HDEP
Director
FILED

JUN 04 2021

TIME
10:39AM

COUNTY CLERK: PLEASE POST UNTIL JULY 6, 2021 AT 5:00 P.M.

FRESNO COUNTY CLERK

R. Holt
DEPUTY

DATE: June 4, 2021

TO: Office of Planning and Research, Responsible and Trustee Agencies, Other Public Agencies and Other Interested Parties

SUBJECT: Notice of Preparation of a Focused Environmental Impact Report and Scoping Meeting regarding proposed development at property located on the west side of North Thiele Avenue, north of the intersection of West Spruce and North Thiele Avenues.

LEAD AGENCY: City of Fresno, Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
(559) 621-8056

CONTACT: Rob Holt
Robert.Holt@fresno.gov
(559) 621-8056

COMMENT PERIOD: June 4, 2021 – July 6, 2021

SEE ATTACHED FULL NOTICE OF PREPARATION

E202110000129

FILED Appendix C

Notice of Completion & Environmental Document Transmittal

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

JUN 04 2021 TIME 10:34AM
SCH #
DEPUTY

Project Title: Tapestry III Tract 6195

Lead Agency: City of Fresno

Mailing Address: 2600 Fresno Street, Room 3065

City: Fresno

Zip: 93721

Contact Person: Robert Holt

Phone: (559) 621-8056

County: Fresno

Project Location: County: Fresno

City/Nearest Community: Fresno

Cross Streets: West side of North Thiele Avenue north of West Spruce Avenue

Zip Code: 93722

Longitude/Latitude (degrees, minutes and seconds): 36 ° 50 ' 36.7 " N / 119 ° 55 ' 2.8 " W Total Acres: 17.58

Assessor's Parcel No.: 504-050-02 & 504-130-12

Section: 32 Twp.: 12S Range: 19E Base: MDBM

Within 2 Miles: State Hwy #: 99

Waterways: San Joaquin River/various irrigation canals

Airports:

Railways: Union Pacific Schools: 3 Elementary, 1 Middle

Document Type:

- CEQA: [X] NOP [] Draft EIR [] Early Cons [] Supplement/Subsequent EIR [] Neg Dec (Prior SCH No.) [] Mit Neg Dec Other:
NEPA: [] NOI [] EA [] Draft EIS [] FONSI
Other: [] Joint Document [] Final Document [] Other:

Local Action Type:

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

Development Type:

- [X] Residential: Units 89 Acres 17.58
[] Office: Sq.ft. Acres Employees
[] Commercial: Sq.ft. Acres Employees
[] Industrial: Sq.ft. Acres Employees
[] Educational:
[] Recreational:
[] Water Facilities: Type MGD
[] Transportation: Type
[] Mining: Mineral
[] Power: Type MW
[] Waste Treatment: Type MGD
[] Hazardous Waste: Type
[] Other:

Project Issues Discussed in Document:

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

Present Land Use/Zoning/General Plan Designation:

See page attached.

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

See page attached.

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

Reviewing Agencies Checklist

E202110000128

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

- Air Resources Board
- Boating & Waterways, Department of
- California Emergency Management Agency
- California Highway Patrol
- Caltrans District # 6
- Caltrans Division of Aeronautics
- Caltrans Planning
- Central Valley Flood Protection Board
- Coachella Valley Mtns. Conservancy
- Coastal Commission
- Colorado River Board
- Conservation, Department of
- Corrections, Department of
- Delta Protection Commission
- Education, Department of
- Energy Commission
- Fish & Game Region # 4
- Food & Agriculture, Department of
- Forestry and Fire Protection, Department of
- General Services, Department of
- Health Services, Department of
- Housing & Community Development
- Native American Heritage Commission

- Office of Historic Preservation
 - Office of Public School Construction
 - Parks & Recreation, Department of
 - Pesticide Regulation, Department of
 - Public Utilities Commission
 - Regional WQCB # _____
 - Resources Agency
 - Resources Recycling and Recovery, Department of
 - S.F. Bay Conservation & Development Comm.
 - San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
 - San Joaquin River Conservancy
 - Santa Monica Mtns. Conservancy
 - State Lands Commission
 - SWRCB: Clean Water Grants
 - SWRCB: Water Quality
 - SWRCB: Water Rights
 - Tahoe Regional Planning Agency
 - Toxic Substances Control, Department of
 - Water Resources, Department of
- Other: _____
- Other: _____

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

Starting Date June 4, 2021

Ending Date July 6, 2021

Lead Agency (Complete if applicable):

Consulting Firm: Provost & Pritchard Consulting Group
 Address: 286 W. Cromwell Avenue
 City/State/Zip: Fresno, CA 93711
 Contact: Dawn Marple
 Phone: (559) 636-1166, Ext. 537

Applicant: BMCH California, LLC
 Address: 7815 N. Palm Avenue, Suite 101
 City/State/Zip: Fresno, CA 93711
 Phone: (559) 439-4464

Signature of Lead Agency Representative: _____

Dawn Marple

Date: June 2, 2021

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

E202110000128

Present Land Use	Present Zoning	Present General Plan Designation
Vacant lot	15.30 acres: PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management) 2.28 acres: PI/BL/UGM (Public Institutional/Bluff Protection/Urban Growth Management)	14.0 acres: Open Space, Regional Park (±14.0 acres) 1.30 acres: Open Space, Multi-Use 2.28 acres: Public Facility, PG&E Substation

Project Description:

Plan Amendment and Rezone Application No. P20-04463 was filed by Precision Engineering and pertains to ±17.58 acres of property. The Project proposes a Plan Amendment to amend the Fresno General Plan and Bullard Community Plan to change the planned land use designations for the subject property from Open Space, Regional Park (±14.0 acres), Open Space, Multi-Use (±1.30 acres), and Public Facility, PG&E Substation (±2.28 acres), to Residential, Medium Density (±17.58 acres). The Rezone application proposes to amend the Official Zoning Map of the City of Fresno to change the subject property from the PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management) (±15.30 acres) and PI/BL/UGM (Public Institutional/Bluff Protection/Urban Growth Management) (±2.28 acres) to the RS-5/BL/UGM (Residential Single Family, Medium Density/Bluff Protection/Urban Growth Management) (±17.58 acres) zone district. Vesting Tentative Tract Map No. 6195/UGM (P18-00579) proposes to subdivide approximately 17.58 acres of the subject property for the purpose of creating an 89-lot conventional singlefamily residential development at a density of approximately 5.05 dwelling units/acre.

The Project will also require dedications and/or acquisitions for public street rights-of-way and utility easements as well as the construction of public facilities and infrastructure in accordance with the standards, specifications, and policies of the City of Fresno in order to facilitate the future proposed development of the subject property.

E202110000120



**NOTICE OF PREPARATION OF FOCUSED ENVIRONMENTAL IMPACT REPORT AND
NOTICE OF PUBLIC SCOPING MEETING REGARDING PROPOSED TAPESTRY III
TRACT 6195 PROJECT**

TO: Responsible Trustee Agencies, other interested agencies, and members of the public

FROM: City of Fresno, Planning and Development Department

SUBJECT: Notice of Preparation of a Draft Focused Environmental Impact Report (FEIR)

DATE: June 4, 2021 to July 6, 2021

The City of Fresno (City) will be the Lead Agency and will have a Focused Environmental Impact Report (FEIR) prepared for Plan Amendment and Rezone Application No. P20-04463 and Vesting Tentative Tract Map No. 6195/UGM (P18-00579) for the Tapestry III Tract 6195 (Project), described below. The City of Fresno has hired a consultant to prepare the FEIR for the Project in accordance with the California Environmental Quality Act (CEQA). The City will consider the FEIR in its action on the Project at a later date to be determined and announced.

Your participation as a responsible/trustee agency/cooperating agency or interested person is requested in the preparation and review of the Draft FEIR. We are seeking your views at the time regarding the scope and content of the environmental information that is relevant to you or your agency's statutory responsibilities.

The Project may require actions or approvals by other agencies. Please inform us of any applicable permit and environmental requirements of your agency with respect to the Project. Your agency may need to use the FEIR when considering your permit or other approval for the Project.

Project Title: Tapestry III Tract 6195

Project Applicant: BMCH California, LLC, a Delaware limited liability company
Tapestry III
7815 North Palm Avenue, Suite 101
Fresno, CA 93711

E202110000128

Project Location:

The Project is located in the City and County of Fresno within Section 32, Township 12S South, Range 19E East, MDB&M (APNs 504-050-02 & 504-130-12). The Project site is located on the west side of North Thiele Avenue north of West Spruce Avenue and south of the San Joaquin River Bluffs (7308 North Thiele Avenue).

Project Description:

Plan Amendment and Rezone Application No. P20-04463 was filed by Precision Engineering and pertains to ±17.58 acres of property. The Project proposes a Plan Amendment to amend the Fresno General Plan and Bullard Community Plan to change the planned land use designations for the subject property from Open Space, Regional Park (±14.0 acres), Open Space, Multi-Use (±1.30 acres), and Public Facility, PG&E Substation (±2.28 acres), to Residential, Medium Density (±17.58 acres). The Rezone application proposes to amend the Official Zoning Map of the City of Fresno to change the subject property from the PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management) (±15.30 acres) and PI/BL/UGM (Public Institutional/Bluff Protection/Urban Growth Management) (±2.28 acres) to the RS-5/BL/UGM (Residential Single Family, Medium Density/Bluff Protection/Urban Growth Management) (±17.58 acres) zone district. Vesting Tentative Tract Map No. 6195/UGM (P18-00579) proposes to subdivide approximately 17.58 acres of the subject property for the purpose of creating an 89-lot conventional single-family residential development at a density of approximately 5.05 dwelling units/acre.

The Project will also require dedications and/or acquisitions for public street rights-of-way and utility easements as well as the construction of public facilities and infrastructure in accordance with the standards, specifications, and policies of the City of Fresno in order to facilitate the future proposed development of the subject property.

Potential Environmental Effects:

Potentially significant environmental impacts of the Project include, but are not limited to, the following: Air Quality; Geology and Soils; Greenhouse Gas Emissions; Noise; Transportation.

The associated maps are available for public review via e-mail (see Planner contact information below).

E202110000128

Document Availability and Public Review Timeline: Due to the time limits mandated by State law, your response to the NOP must be sent *no later than 30 days* after receipt of this notice. The review period for the NOP will be from June 4, 2021 to July 6, 2021. Due to closures of public facilities in response to COVID-19, electronic copies of the NOP can be accessed on the City's website at: <https://www.fresno.gov/darm/planning-development/plans-projects-under-review/>. A copy of the NOP can also be obtained by email via the email address below.

Written Comments: Comments in response to the Notice of Preparation will be accepted through 5:00 P.M., July 6, 2021. Please send your written comments to:

Robert Holt, Planner III
City of Fresno Planning and Development Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
Phone: (559) 621-8056
Email: Robert.Holt@fresno.gov

All written comments should reference Plan Amendment and Rezone Application No. P20-04463 and Vesting Tentative Tract Map No. 6195/UGM (P18-00579), Tapestry III Tract 6195 (Project) Focused Environmental Impact Report. Please include your name, address, and phone number, and/or email so that we may contact you for clarification, if necessary.

Persons with questions or requests for information may call Robert Holt at (559) 621-8056 or email at Robert.Holt@fresno.gov.

Public Scoping Meeting: The CEQA process encourages comments and questions from the public throughout the planning process. Pursuant to Section 15083 of the CEQA Guidelines, a Public Scoping Meeting will be held to solicit public comments on the scope and content of the FEIR. Due to closures of public facilities in response to COVID-19, the Public Scoping Meeting will be held via Zoom Webinar. The Webinar information is below:

Date: Wednesday, June 23, 2021

Time: 6:00 P.M. to 9:00 P.M.

Link: <https://zoom.us/j/94345887586?pwd=Q0NaMVNONDBVVVetySVFtb0pHbFU1UT09>

Or by Phone: (669) 900-9128 or (253) 215-8782

Webinar ID: 943 4588 7586

Passcode: 6Bhtbd

Find your local number: <https://zoom.us/u/abPC4E0hwv>

Newspaper Notice of Preparation Published: The Fresno Bee, June 4, 2021.

E202110000128



Appendix B

Initial Study

City of Fresno

Vesting Tentative Tract Map No. 6195

Draft Initial Study
December 2021

Prepared for:
City of Fresno



Prepared by:
Provost & Pritchard Consulting Group
400 West Main Street, Suite 300
Visalia, CA 93291



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Report Prepared for:

City of Fresno

Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

Contact:

Robert Holt, Planner III
(559) 621-8060

Project Proponent:

Dennis M. Gaab
Century Communities of California, LLC
7815 N. Palm Ave, Suite 101
Fresno, CA 93711

Contact:

Dennis M. Gaab
(559) 439-4464

Report Prepared by:

Provost & Pritchard Consulting Group

Dawn E. Marple, Principal Planner, QA/QC
Jarred Olsen, Associate Planner
Ryan McKelvey, Assistant Planner
Lizbeth Avitia, Assistant Planner
Wyatt Czesinski, Assistant Planner
Mallory Serrao, GIS
Jackie Lancaster, Administrative Support

Contact:

Dawn E. Marple
(559) 636-1166

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Acronyms and Abbreviations

AB	Assembly Bill
AFY	acre-feet/year
ALUCP	Airport Land Use Compatibility Plan
AQP	Air Quality Plan
BPS	Best Performance Standards
CDFW	California Fish and Wildlife
City	City of Fresno
CNEL	Community Noise Equivalent Level
County	County of Fresno
CRHR	California Register of Historical Resources
CSUB	California State University Bakersfield
CWA	Clean Water Act
dBA	A-weighted decibels
DOC	California Department of Conservations
DPU	Department of Public Utilities
DTSC	(California) Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FGC	(California) Fish & Game Code
FMFCD	Fresno Metropolitan Flood Control District
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
GAMAQI	Guidelines for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
GIS	Geographic Information System
GP	General Plan
gpcd	gallons per capita day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan

HUC.....	Hydrologic Unit Code
IS	Initial Study
km	kilometers
Ldn	Day/Night Average Sound Level
MBTA.....	Migratory Bird Treaty Act
MCL.....	Maximum Contaminant Level
mgd	million gallons per day
MND.....	Mitigated Negative Declaration
MRZ.....	Mineral Resource Zones
NAAQS.....	National Ambient Air Quality Standards
NAHC.....	Native American Heritage Commission
ND	Negative Declaration
NFWTF.....	North Fresno Wastewater Treatment Facility
NHPA.....	National Historic Preservation Act
NOx.....	Nitrogen Oxides
NPDES.....	National Pollutant Discharge Elimination System
NRCS.....	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
Pb	Lead
PG&E.....	Pacific Gas and Electric Company
PM ₁₀	particulate matter 10 microns in size
PM _{2.5}	particulate matter 2.5 microns in size
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
RCRA.....	Resource Conservation and Recovery Act
Reclamation.....	United States Bureau of Reclamation
RWQCB.....	Regional Water Quality Control Board
SB	Senate Bill
SGMA.....	Sustainable Groundwater Management Act
SHPO.....	(CA) State Historic Preservation Officer
SJV	San Joaquin Valley
SJVAB.....	San Joaquin Valley Air Basin
SJVAPCD.....	San Joaquin Valley Air Pollution Control District

SO ₂	Sulfur Dioxide
SR	State Route
SSJVIC	Southern San Joaquin Valley Information Center
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TPY	Tons Per Year
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
µg/m ³	micrograms per cubic meter

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study (IS) on behalf of the City of Fresno (City) to address the environmental effects of the proposed Vesting Tentative Tract Map No. 6195 (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.* The City is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in the **Chapter 2 Project Description**.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

- a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or
- b. The IS identified potentially significant effects, but:
 1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
 2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project *as revised* may have a significant effect on the environment.

1.2 Document Format

This IS contains three chapters and three appendices, **Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives **Chapter 3 Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. **Chapter 3** concludes with the Lead Agency's determination based upon this initial evaluation.

The Biological Habitat Assessment, Cultural Resource Assessment for the Tract 6195, Tapestry III Project Area, City of Fresno, California, Phase I Environmental Site Assessment, Acoustical Analysis, and the Draft Traffic Impact Analysis Report are provided as technical **Appendix A, Appendix B, Appendix C, Appendix D, and Appendix E**, respectively, at the end of this document.

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Century Communities of California, LLC: Tapestry III Tract 6195

2.1.2 Lead Agency Name and Address

City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

2.1.3 Contact Person and Phone Number

Lead Agency Contact
Robert Holt, Planner III
(559) 621-8056
Robert.Holt@fresno.gov

CEQA Consultant
Provost & Pritchard Consulting Group
Dawn E. Marple, Environmental Project Manager
(559) 636-1166

2.1.4 Project Location

The Project is located in the City of Fresno, California, approximately 148 miles southeast of Sacramento and 114 miles northwest of Bakersfield, on the west side of the northern terminus of North Thiele Avenue directly south of the San Joaquin River (see **Figure 2-1** and **Figure 2-2**). The proposed site of the Project is located on Assessor's Parcel Numbers 504-050-02 and 504-130-12.

2.1.5 Latitude and Longitude

The location of the Project area is 36°50'36.04" N, -119°55'02.40" W

2.1.6 General Plan Designation

Table 2-1. General Plan Designation

Project Area	General Plan Designation
±14.0 acres	Open Space, Regional Park
±1.3 acres	Open Space, Multi-Use
±2.28 acres	Public Facility, PG&E Substation

2.1.7 Zoning

Table 2-2. Zone District

Project Area	Zone District
±15.30 acres	PR/BP/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management)
±2.28 acres	PI/BP/UGM (Public Institutional/Bluff Protection/Urban Growth Management)

2.1.8 Description of Project

2.1.8.1 Project Description

Plan Amendment Application No. P20-04463, Rezone Application No. P20-04463, and Vesting Tentative Tract Map No. 6195/UGM (P18-00579) were filed by Precision Engineering and pertain to ±17.58 acres of property, located on the west side of the northern terminus of North Thiele Avenue (the subject property; Assessor Parcel Nos. 504-050-02 and 504-130-12). The project proposes to:

- Amend the General Plan and Bullard Community Plan Land Use Map to change the subject property:
 - From the following land use designations:
 - Open Space, Regional Park (±14.0 acres);
 - Open Space, Multi-Use (±1.30 acres); and,
 - Public Facility, PG&E Substation (±2.28 acres);
 - To Residential, Medium Density (±17.58 acres).
- Amend the Official Zoning Map of the City of Fresno to change the subject property:
 - From the following zone districts:
 - PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management) (±15.30 acres); and,
 - PI/BL/UGM (Public and Institutional/Bluff Protection/Urban Growth Management) (±2.28 acres)
 - To the RS-5/BL/UGM (Residential Single Family, Medium Density/Bluff Protection/Urban Growth Management) zone district (±17.58 acres).
- Subdivide the subject property into an 89-lot conventional single-family residential development at a density of approximately 5.05 dwelling units/acre. Outlots will be dedicated to the City for open space, trails, parking, flood control, and emergency vehicle access purposes. Homes would be constructed in accordance with the RS-5 Zone District.
- Construct public facilities and infrastructure such as pocket parks, water and sewer mains, curb, gutter, sidewalks, signs, fire hydrants, and street lighting in accordance with the standards, specifications, and policies of the City of Fresno in order to facilitate the proposed subdivision.
- Annex the subject property into the City of Fresno Community Facilities District (CFD) No. 11 for maintenance of parks and right-of-way.

2.1.8.2 Construction

Project construction will occur in several phases. Construction hours would be limited to 7:00 am to 10:00 pm, Monday through Saturday, pursuant to Fresno Municipal Code Section 10-109.

2.1.8.3 Operation and Maintenance

Maintenance of public infrastructure will occur as needed. Solid waste vehicles are expected to service the Project's solid waste, recycling, and green waste needs weekly.

2.1.9 Site and Surrounding Land Uses and Setting

Table 2-3. Surrounding Land Uses

Direction	Existing Land Use	General Plan	Zoning
North	San Joaquin River	Open Space, Multi-Use	Unzoned (San Joaquin River)
South	Equestrian Park	Open Space, Regional Park	PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management)
East	Single-Family Residential	Medium-Low Density Residential	RS-4/BL/UGM (Residential Single-Family, Medium Low Density/Bluff Protection/Urban Growth Management)
West	PG&E Substation	Public Facility – PG&E Substation	PI/BL/UGM (Public and Institutional/Bluff Protection/Urban Growth Management)

See **Figure 2-4** and **Figure 2-5** and for the zoning and general plan designations, respectively.

2.1.10 Other Public Agencies Whose Approval May Be Required

Central Unified School District
 Fresno County Department of Public Health
 Fresno Metropolitan Flood Control District
 San Joaquin Valley Air Pollution Control District (SJVAPCD)

2.1.11 Consultation with California Native American Tribes

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the California Environmental Quality Act (CEQA) Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)). According to the most recent census data, California is home to 109 currently recognized Indian tribes. Tribes in California currently have nearly 100 separate reservations or Rancherías. Fresno County has a number of Rancherías such as Table Mountain Rancheria, Millerton Rancheria, Big Sandy Rancheria, Cold Springs Rancheria, and Squaw Valley Rancheria. These Rancherías are not located within the city limits.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

Pursuant to Senate Bill 18 (SB 18), Native American tribes traditionally and culturally affiliated with the project area were invited to consult regarding the project based on a list of contacts provided by the Native American Heritage Commission (NAHC). The City of Fresno mailed notices of the proposed project to each of these tribes on August 29, 2018 which included the required 90-day time period for tribes to request consultation,

which ended on November 27, 2018. The City also mailed notices on June 1, 2021. The 90-day time period ended on August 30, 2021.

In addition, and pursuant to Assembly Bill 52 (AB 52), the Table Mountain Rancheria Tribe and the Dumna Wo Wah were invited to consult under AB 52. The City of Fresno mailed notices of the proposed project to each of these tribes on July 3, 2018 which included the required 30-day time period for tribes to request consultation, which ended on August 3, 2018. The City also mailed notices on June 1, 2021. The 30-day time period concluded on July 1, 2021.

Under invitations to consult both under SB 18 and AB 52, Table Mountain Rancheria Tribe elected to consult on the proposed project on August 14, 2018 under AB 52 guidelines. Mitigation measures were incorporated into the subsequent Environmental Impact Report.

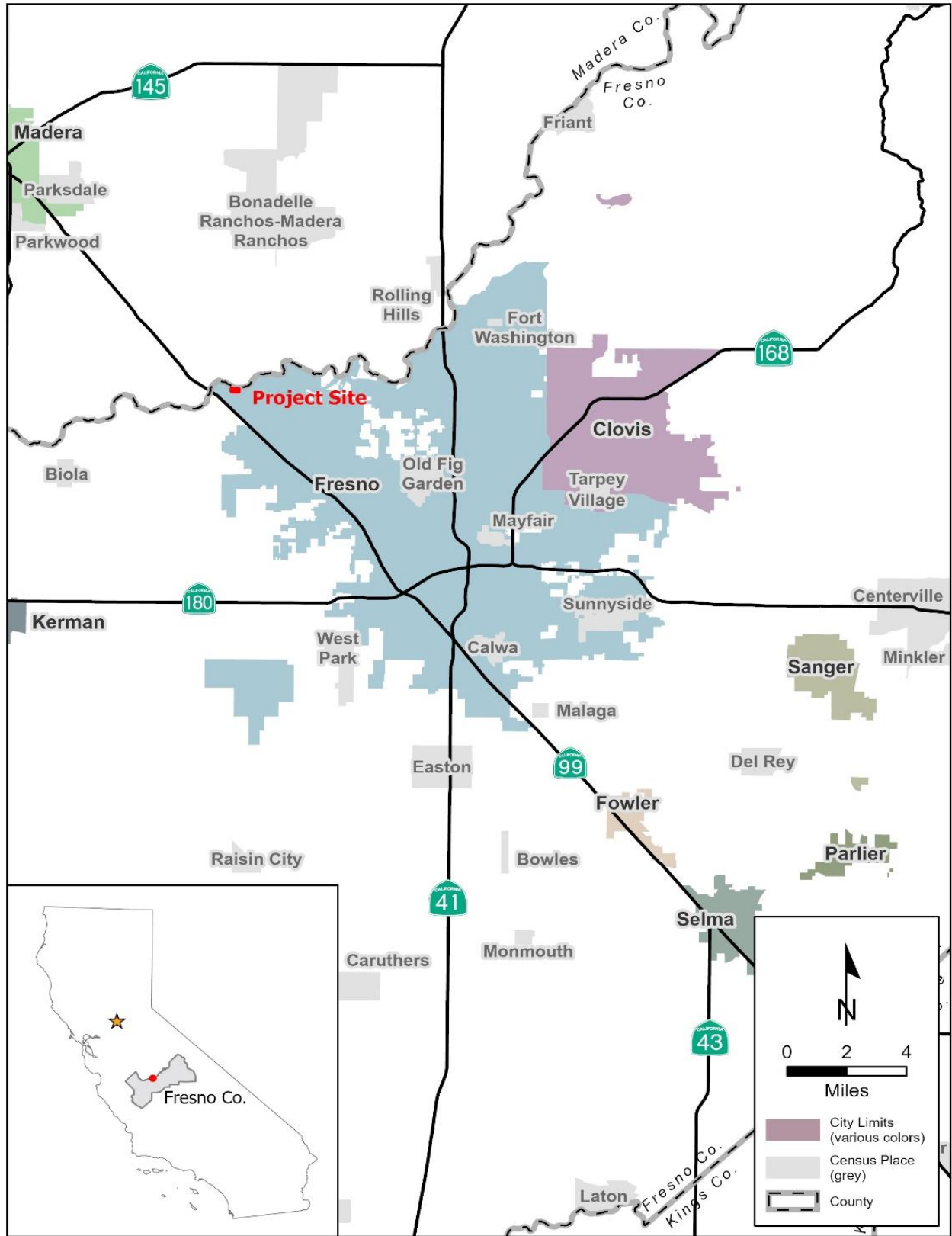


Figure 2-1. Regional Vicinity Map

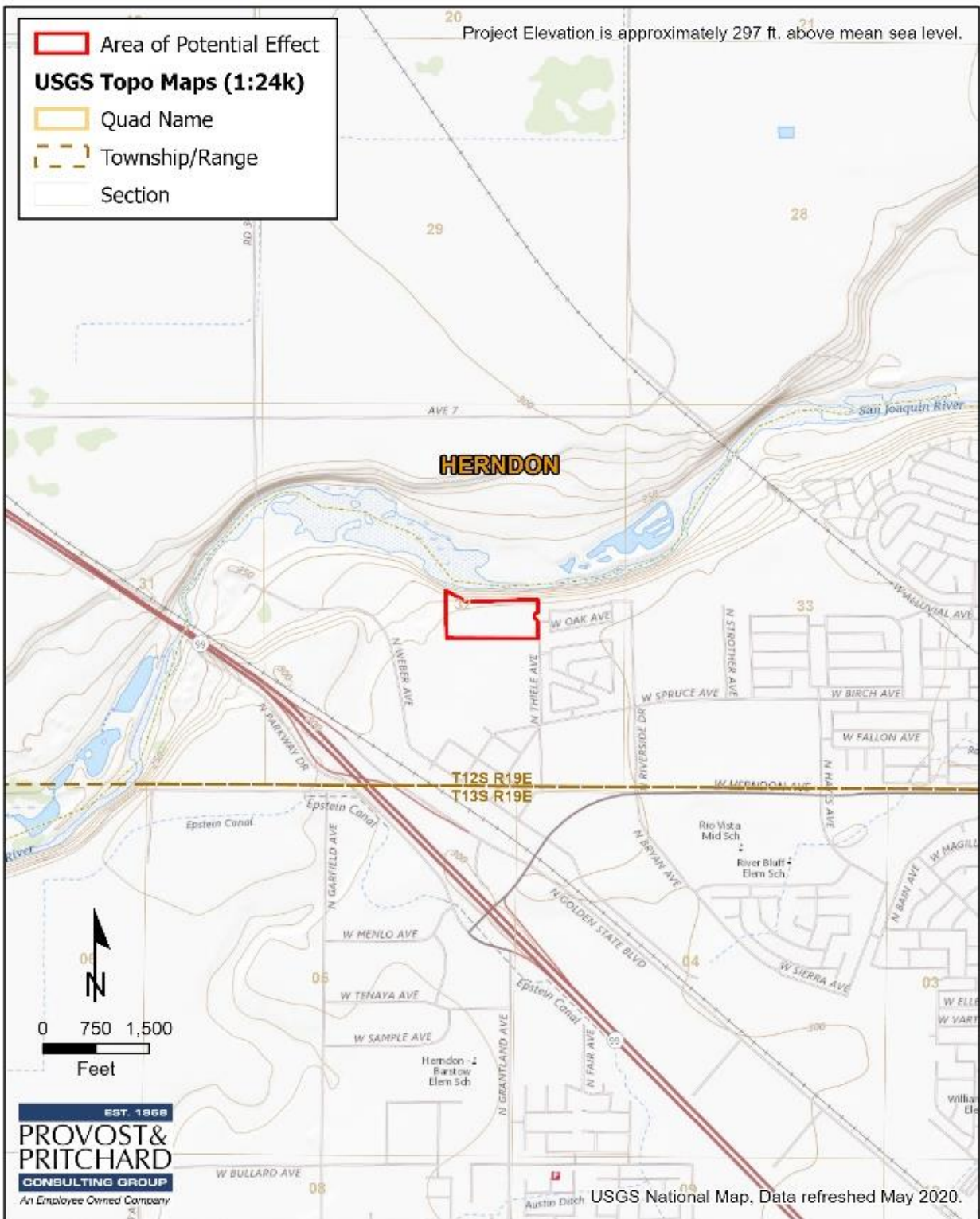


Figure 2-2. Topographic Quadrangle Map

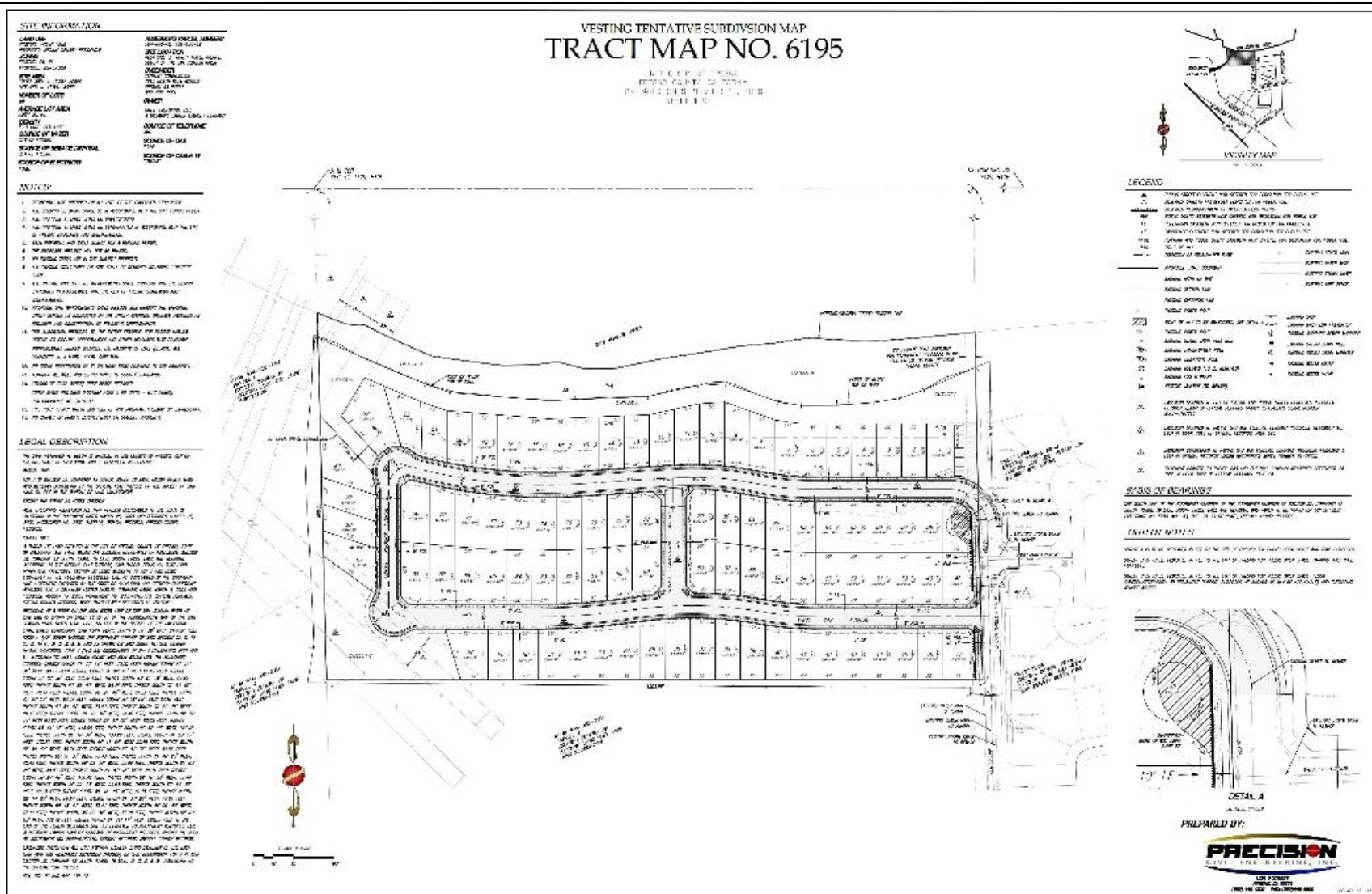


Figure 2-3. Site Plan Tentative Map Drawing

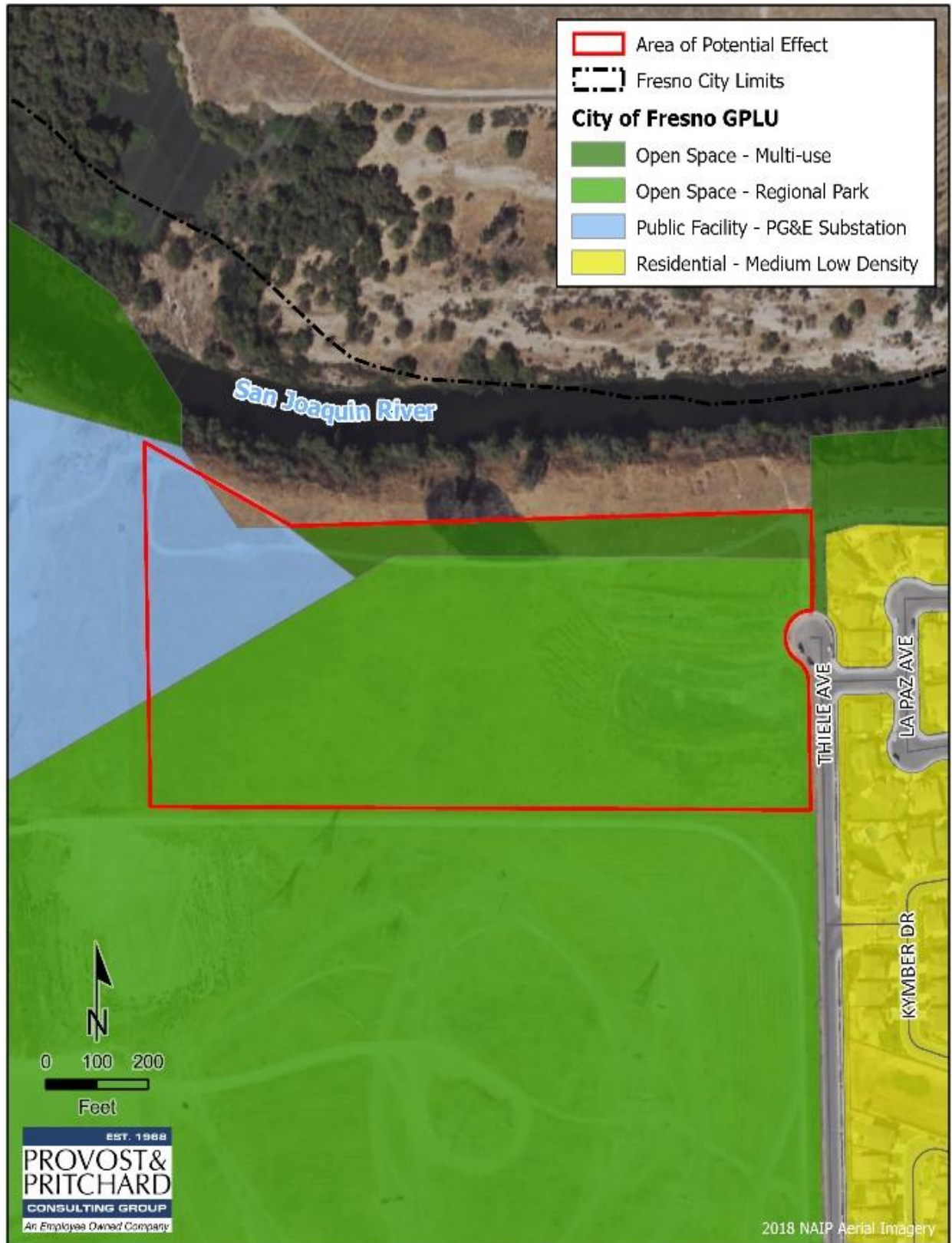


Figure 2-4. General Plan Land Use Designation Map

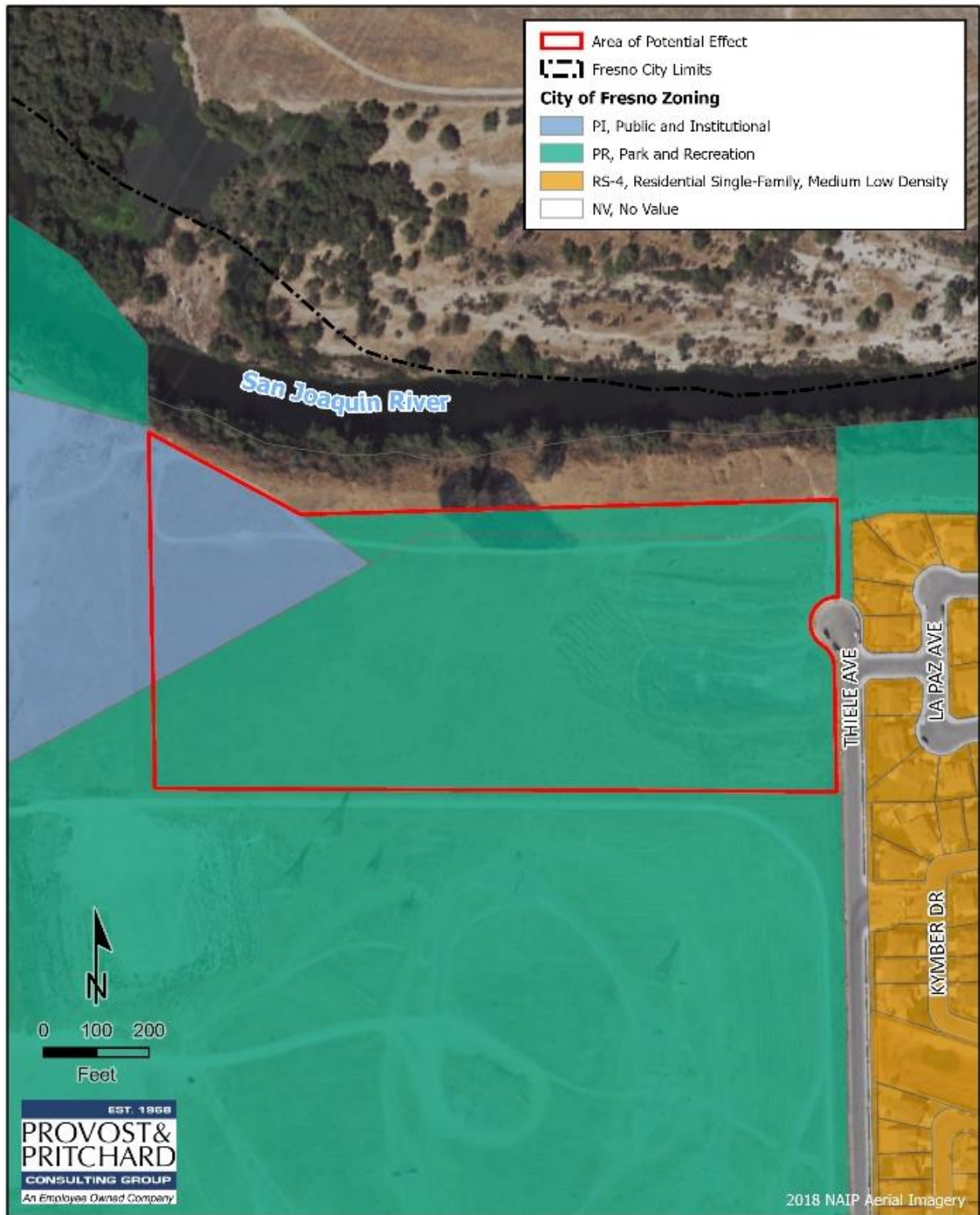


Figure 2-5. Zone District Map

Chapter 3 Impact Analysis

3.1 Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

- | | | |
|----------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture & Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

The analyses of environmental impacts here in **Chapter 3: Impact Analysis** are separated into the following categories:

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. “No Impact” answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (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)

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics Impacts				
Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.2.1 Environmental Setting and Baseline Conditions

Scenic vistas are areas that are considered to be a viewpoint either, naturally occurring or man-made, that would be pleasing to the general public and as a result provides a benefit to the area. Within the Fresno area, scenic vistas include points along the San Joaquin River, views of the Sierra Nevada Mountain Range, views of the downtown Fresno skyline, and historical buildings, many of which are located downtown. Such resources provide a visual benefit to those who have access to them. The Project site is a vacant lot that is proposed to be a new subdivision in northwest Fresno. The Project site is located approximately 200 feet south of the San Joaquin River Bluffs. The Bluffs are considered by the City of Fresno General Plan to be an area of scenic value but are not specifically identified as scenic vistas. The nearest Vista designated by the General Plan is located approximately 1,300 feet to the northeast of the Project site, across the San Joaquin River. The San Joaquin River is not designated as a scenic river¹, and there are no scenic highways² located near the Project site. As the Project site is undeveloped and borders an existing newly built subdivision, there are no historic buildings located on or near the Project site. Photos 1 through 10 within **Appendix A** depict the existing setting for the Project site. The San Joaquin River is not viewable from North Thiele Avenue, and a portion is viewable from the existing trail system located east of the Project site. Currently the Project is planned and zoned to accommodate park space; however, as a part of the Project, a General Plan Amendment and Rezone would take place in order to develop a new residential subdivision.

3.2.2 Regulatory Settings

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the city. The following objective and policies related to aesthetics resources are presented in the General Plan:

¹ National Wild and Scenic River System. California. Website: <https://www.rivers.gov/california.php>. Accessed 5/24/21.

² Caltrans. State Scenic Highway Map. Website: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed 5/24/21.

POSS-7-f River Bluffs.

- Preserve the river bluffs as a unique geological feature in the San Joaquin Valley by maintaining and enforcing the requirements of the "BP" Bluff Preservation Overlay Zone District, maintaining the bluff area setback for buildings, structures, decks, pools and spas (which may be above or below grade), fencing, and steps, and maintaining designated vista points.
- Strive to assure that development of the parkway and other uses within the San Joaquin river bottom environs are consistent with the mineral resources conservation zones; honor flood, environmental, recreational and aesthetic issues; protect natural habitats and historic resources; and consider adjacent property owners.
- Take an active role in establishing park entrances. Provide all gates, trails and roads adequate access by emergency vehicles such as fire trucks, police cars, and ambulances.
- For safety reasons, access may be limited to points that have controlled access gates. Cooperation of private parties having legal control of river bottom access shall be sought in this effort.
- Continue to work toward the adoption of official plan lines for new segments of the San Joaquin River Trails and actively pursue completion of these segments to ensure that adequate and appropriate public access to the San Joaquin River and the Parkway is provided.

San Joaquin River Parkway Master Plan Update. The San Joaquin River Conservancy is an agency of the State of California created by the Legislature to create the San Joaquin River Parkway by acquiring 5,900 acres from willing sellers for Parkway purposes; enhancing and restoring riparian, floodplain, and other habitats, and conserving natural and cultural resources on its lands; and developing and managing its lands for public recreational and educational uses compatible with resource protection. The Conservancy also assists other entities in conserving and improving their lands for the Parkway. The Conservancy works to facilitate the development of the Parkway, cultivate public support, and secure its future. The following objective and policies related to aesthetics resources are presented in the Master Plan:

- **Public Access and Recreation Goal:** Encourage trail corridors of sufficient width (varying with terrain, vegetation, and land) to preserve a scenic environment for users and to minimize impacts of trail use on wildlife and their habitats and on adjacent land uses.
 - **Policy ACCESS.2** Minimize potential impacts to sensitive natural resources by grouping facilities and intensive uses, or siting facilities and intensive uses in areas that are already disturbed or developed, where feasible.

3.2.3 Impact Assessment

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. The Project would not have a substantial adverse effect on a scenic vista. The Bluffs are considered by the City of Fresno General Plan to be an area of scenic value but are not specifically identified as scenic vistas. The Project would develop a new subdivision on approximately 17.58 acres of undisturbed land in northwest Fresno. The Project site would be located approximately 200 feet south of the San Joaquin River Bluffs, which represent a scenic resource for the area. The Project would not result in the obstruction of any views of the Bluffs for existing residents in the area. In addition, the San Joaquin River cannot be seen from any public access point, besides from the proposed trail. The only housing in the area is located adjacent to the Project site to the east. Those residents with a view of the Bluffs would not have their view obstructed by the construction of this Project. In addition, the Project would not alter any scenic vista. Construction would occur inland from the Bluffs and would not result in any damage to scenic resources in the area. Furthermore, the Project is required to construct a trail along the bluff edge and parking lot through the dedication of Outlot A, as shown in **Figure 2-3**. Therefore, impacts would be less than significant.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. The Project site is not located near a State designated scenic highway. In addition, the Project site is a vacant piece of land that would not result in any destruction of scenic resources from Project construction. The Project is also not located in the vicinity of any historical building. The Project proposes a trail adjacent to a residential subdivision, consistent with the San Joaquin River Parkway Master Plan Policy ACCESS-2. Therefore, there would be a less than significant impact.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public view are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The Project is located in the City of Fresno, which is an urbanized area. The Project would result in the construction of a new subdivision to the west of an existing neighborhood. The Project proposes 89 lots for the construction of 89 single-family residences. The architectural renderings, elevations, and color schemes would be developed in a manner not to degrade the existing visual character. House sizes would be based within the parameters of the RS-5 zone district. Primarily, the house sizes would be restricted by the RS-5 established lot coverage, setbacks, and height limitations. The Project would result in a General Plan Amendment and Rezone in order to allow for residential use at the Project site. According to the City of Fresno Zoning Map³, the Project site is located in the Bluff Protection Overlay District, which serves to protect the scenic quality of the San Joaquin River Bluffs. The Project does not propose to remove the Bluff Protection Overlay District. As a result, the Project would develop in accordance with the development standards of the Overlay District and not conflict with any zoning that protects scenic quality regarding the Bluffs. In addition, the existing site is a vacant lot. Surrounding the vicinity in various locations include tall transmission towers connected by transmission lines. The implementation of the Project would not degrade the setting. It would provide development consistent with the character of the neighboring residential development. From the ground of the Project site, the San Joaquin River is not in view, therefore, the Project would not obstruct any potential existing view. Therefore, there would be a less than significant impact.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact with Mitigation Incorporated. Development of the site will create a new source of substantial light or glare within the area. However, given that the project site is adjacent to an area which has been previously developed with urban and single-family residential uses, which already affect day and nighttime views in the project area to a degree equal or greater than the proposed project, no significant impact will occur. The trail will not be lit. Due to the layout of the subdivision, the back yards of residential lots will abut the trail, therefore residential homes would likely reduce the amount of streetlighting spilled onto the bluffs. Implementation of Mitigation Measures AES-1, AES-2, and AES-3 will ensure that impacts remain less than significant.

Mitigation Measures

AES-1: Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.

AES-2: Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties.

³ City of Fresno. Planning Development Zoning Map Update. Website: <https://www.fresno.gov/darm/planning-development/zoning/zoning-map-update/>. Accessed 5/24/21.

AES-3: Materials used on building facades shall be non-reflective.

3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Impacts

Agriculture and Forest Impacts				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Environmental Setting and Baseline Conditions

Although the Project site has been historically farmed, agricultural practices ended in 1985 and today it is currently vacant and is not utilized for agricultural purposes.

Based upon the upon the 2018 Rural Land Mapping Edition: Fresno County Important Farmland Map of the State of California Department of Conservation, portions of the subject property are designated as Farmland of Local Importance and Nonagricultural or Natural Vegetation land.

Farmland of Local Importance is defined as farmland within Fresno County that does not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock and dairy, poultry facilities, aquaculture, and grazing land.

Nonagricultural and Natural Vegetation is defined as heavily wooded, rocky/barren areas, riparian and wetland area, grassland area which do not qualify as Grazing Land due to their size or land management restrictions, small water bodies and recreational water ski lakes. Constructed wetlands are also included in this category.

As demonstrated in **Figure 3-1**, the FMMP for Fresno County designates the project site as Farmland of Local Importance and Nonagricultural and Natural Vegetation.

3.3.2 Regulatory Setting

3.3.2.1 Federal

The Farmland Protection Policy Act (FPPA) was enacted to minimize the impact of federal programs on the unnecessary conversion of farmland to non-agricultural uses. To the extent possible, the FPPA ensures that federal programs are administered to be consistent with state and local regulations to protect farmland. This act does not authorize the federal government to regulate the use of private or non-federal land. For the purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

3.3.2.2 State

Farmland Mapping and Monitoring Program (FMMP): The FMMP produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

The California DOC's 2018 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture-related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below⁴:

- **FARMLAND OF LOCAL IMPORTANCE (L):** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **OTHER LAND (X):** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Land Conservation Act of 1965 (Williamson Act). The California Land Conservation Act, better known as the Williamson Act, has acted as the State's agricultural land protection program since its enactment in 1965. Fundamentally, the Williamson Act is a State policy administered by local governments, who enter into agreements with local landowners. In return, the landowners receive property tax assessments based on farming and open space uses, as opposed to full market value, thus resulting in a lower tax burden. Local governments are not mandated to administer the Act, but those that do have some latitude to tailor the program to suit local goals and objectives. The purpose of the Williamson Act is to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. In general, the minimum preserve size is 100 acres, and the minimum standard contract size for the county of Fresno is 20 acres on Prime Farmland and 40 acres on non-prime farmland within a preserve. The Williamson Act has a minimum contract size of 10 acres. Williamson Act contracts have a minimum term of 10 years, with renewal occurring automatically each year (local governments can establish initial contract terms for longer periods of time). The Williamson Act contracts run with the land and are binding on all successors in interest of the landowner. Only land located within an agricultural preserve is eligible for Williamson Act contracts. An agricultural preserve defines the boundary of an area within which a city or county would enter into contracts with landowners. The boundary is designated by resolution of the board of supervisors or city council having jurisdiction. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural uses would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses allowed with a

⁴ California Important Farmland Finder (FMMP). <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed 5/24/2021.

use permit. The landowner can petition to cancel a contract, although the presiding jurisdiction must make a finding based on substantial evidence that supports the cancellation of the contract. Upon approval, the landowner must pay a fee of 12.5 percent of the current fair market valuation of the property.

3.3.3 Local

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the city. The following objective and policies related to agricultural resources are presented in the General Plan:

- **Objective RC-9.** Preserve agricultural land outside of the area planned for urbanization under this General Plan.

3.3.4 Impact Assessment

a) 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?

No Impact. Pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, the subject property is not considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, therefore the project would not convert said Farmland to non-agricultural use. There would be no impact.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The subject property is not zoned for agricultural use and it is not subject to a Williamson Act agricultural land conservation contract. Therefore, the proposed Project will not affect existing agriculturally zoned or Williamson Act contract parcels. There would be no impact.

c) 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))?

No Impact. The Project is not within the vicinity of a forest 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)). According to the City of Fresno General Plan, the Planning Area does not include any land used or designated for timber, forest land, or timber harvesting industry. Therefore, the Project will not conflict with existing zoning for, or cause rezoning of forest land. There would be no impact.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed above in Section 3.3.4 Impact Assessment “c”, the Project is not within the vicinity of a forest 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)). According to the City of Fresno General Plan, the Planning Area does not include any land used or designated for timber, forest land, or timber harvesting industry. Therefore, the Project will not result in the loss of forest land or conversion of forest land to non-forest use. There would be no impact.

e) 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?

Less than Significant Impact. Future development in accordance with the Fresno General Plan would result in the conversion of farmland to a non-agricultural use. Except for direct conversion, the implementation of

Chapter 3 Impact Analysis – Agriculture and Forestry

Vesting Tentative Tract Map No. 6195

project development would not result in other changes in the existing environment that would impact agricultural land outside of the project boundary. Therefore, the project would result in no impact on farmland or forest land involving other changes in the existing environment. Therefore, the Project will not have an impact on converting farmland to non-agricultural use or forest land to non-forest use. The impact would be less than significant.

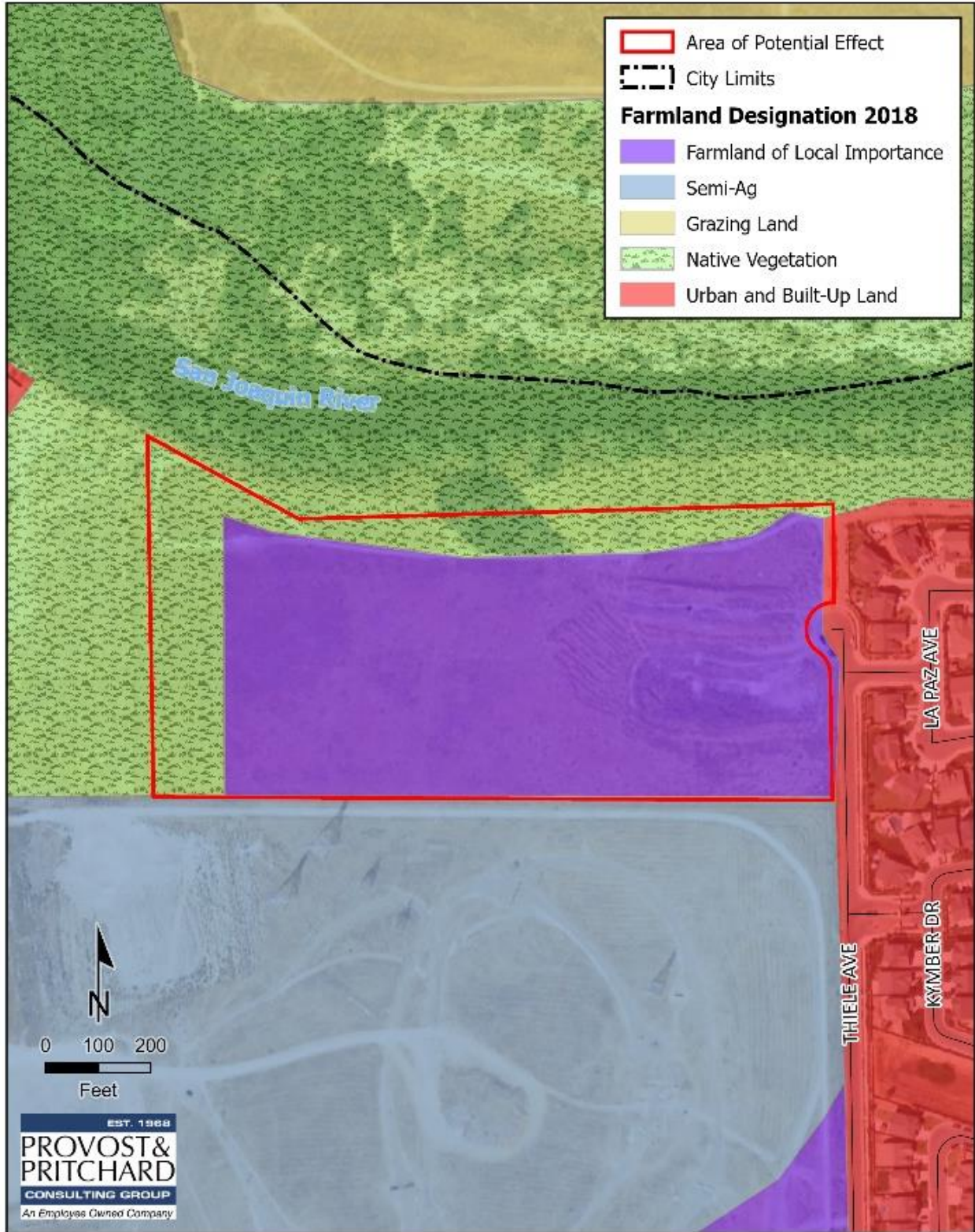


Figure 3-1. Farmland Designation Map

3.4 Air Quality

Table 3-3. Air Quality Impacts

Air Quality Impacts				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Environmental Setting and Baseline Conditions

3.4.1.1 Regulatory Attainment Designations

Under the CCAA, the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for ozone, CO, and NO₂ as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO₂, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM₁₀ based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated “unclassified.”

The State and national attainment status designations pertaining to the SJVAB are summarized in [Error! Reference source not found.](#) The SJVAB is currently designated as a nonattainment area with respect to the State PM₁₀ standard, ozone, and PM_{2.5} standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and PM_{2.5} standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM₁₀ NAAQS and approved the PM₁₀ Maintenance Plan.

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Nonattainment	–	Attainment
	24-hour	50 µg/m ³		150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Nonattainment	12 µg/m ³	Nonattainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO ₂)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m ³	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		–	
	Rolling 3-Month Average	–		0.15 µg/m ³	
Sulfates (SO ₄)	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide (H ₂ S)	1-hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride (C ₂ H ₃ Cl)	24-hour	0.01 ppm (26 µg/m ³)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

* For more information on standards visit: <https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf>

** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.

***Secondary Standard

Source: CARB 2015; SJV-APCD 2015

3.4.1.2 Criteria Pollutants

California’s ambient air monitoring network is one of the most extensive in the world, with more than 250 sites and 700 individual monitors measuring air pollutant levels across a diverse range of topography, meteorology, emissions, and air quality. Existing levels of ambient air quality and historical trends and projections in the Project are best documented by measurements made by these monitoring sites. The nearest monitoring site to the Project is located at the Fresno-Garland Monitoring Station at 3727 North First Street in Fresno, CA.

The site measures O₃, PM₁₀, and PM_{2.5}. Data presented in **Table 3-5** summarize monitoring data from the CARB’s Aerometric Data Analysis and Management System for the Fresno-Garland Monitoring Station location published from 2018 to 2020.

Table 3-5. Ambient Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2018	2019	2020
Ozone	1-hour	Max 1 Hour (ppm)	0.121	0.105	0.119
		Days > State Standard (0.09 ppm)	8	2	0
	8-hour	Max 8 Hour (ppm)	.099	.084	.099
		Days > National Standard (0.070 ppm)	36	17	¹
Inhalable coarse particles (PM ₁₀)	Annual	State Annual Average (µg/m ³)	40.6	35.9	¹
	24-hour	National 24 Hour (µg/m ³)	298.4	174.2	211.7
		Days > State Standard (50 µg/m ³)	130.4	328.2	296.0
		Days > National Standard (150 µg/m ³)	0	3	13
Fine particulate matter (PM _{2.5})	Annual	National Annual Average (µg/m ³) ¹	16.6	11.2	19.8
	24-hour	24 Hour (µg/m ³)	95.7	51.3	171.8
		Days > National Standard (35 µg/m ³)	36	10	¹
Carbon Monoxide (CO)	1-hour	1 Hour (ppm)	2.1	1.9	5.0
	8-hour	8 Hour (ppm)	2.0	1.5	2.5
Sulfur Dioxide (SO ₂)	24-hour	24 Hour (ppm)	.0072	.0089	.0162

¹ Insufficient data available to determine the value.

3.4.2 Impact Assessment

3.4.2.1 Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized, as follows:

Short-Term Emissions of Particulate Matter (PM₁₀): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

Short-Term Emissions of Ozone Precursors (ROG and NOX): Construction impacts associated with the proposed Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO_x that exceeds 10 TPY.

Long-Term Emissions of Particulate Matter (PM₁₀): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM₁₀ that exceed 15 TPY.

Long-Term Emissions of Ozone Precursors (ROG and NOX): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of ROG or NO_x that exceeds 10 TPY.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, PM_{2.5}, and PM₁₀, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Local Mobile-Source CO Concentrations: Local mobile source impacts associated with the proposed Project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Toxic Air Contaminants: Exposure to toxic air contaminants would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.

Odors: Odor impacts associated with the proposed Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. CEQA requires that certain projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. As discussed below, construction of the project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. Implementation of SJVAPCD Regulation VIII would further reduce construction dust impacts. Operational emissions associated with the project would not exceed SJVAPCD established significance thresholds for ROG, NO_x, CO, sulfur oxides (SO_x), PM₁₀, or PM_{2.5} emissions. With implementation of Rule 9510, NO_x and PM₁₀ emissions would further be reduced. Therefore, the project would not conflict with or obstruct implementation of SJVAPCD air quality plans. The impact would be less than significant.

b) 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?

Less than Significant Impact with Mitigation Incorporated.

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and TACs such as diesel exhaust particulate matter.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0, consistent with SJVAPCD recommendations. As depicted in **Table 3-6** below, construction emissions associated with the project would not exceed the SJVAPCD’s thresholds for ROG, NO_x, CO, SO_x, PM_{2.5}, or PM₁₀ emissions.

Table 3-6. Short-Term - Construction-Generated Emissions of Criteria Air Pollutants

Short-Term Construction-Generated Emissions of Criteria Air Pollutants						
Year	Annual Emissions (Tons/Year) ⁽¹⁾					
	ROG	NO _x	CO	SO _x	PM10	PM _{2.5}
2022	0.1	2.0	1.5	<0.1	0.2	0.1
2023	1.6	2.7	2.2	<0.1	0.1	0.1
<i>SJVAPCD Significance Thresholds:</i>	10	10	100	27	15	15
<i>Exceed SJVAPCD Thresholds?</i>	No	No	No	No	No	No

The SJVAPCD requires the implementation of Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM₁₀ emissions during the construction period. Implementation of the Regulatory Control Measure AIR-1 would ensure that the proposed project complies with Regulation VIII and ensures the short-term construction period air quality impacts would be less than significant.

Mitigation Measures

AIR-1: Consistent with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site:

- 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.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. 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.
- 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.)
- 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 emission utilizing sufficient water or chemical stabilizer/ suppressant.

Operational Air Quality Impacts

Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

PM₁₀ emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM₁₀ occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and

brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand for the proposed project could include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions.

The emission factor is determined by the fuel source, with cleaner energy sources like renewable energy, producing fewer emissions than conventional sources. The project would comply with the 2019 California Building Standards Code (California Code of Regulations, Title 24), which was accounted for in the analysis.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings, consumer products, and the use of landscape maintenance equipment. This analysis assumes that the proposed project would not include any wood burning stoves or fireplaces. Emission estimates for operation of the project were calculated using CalEEMod. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project; emissions are released in other areas of the Air Basin. The annual emissions associated with project operational trip generation, energy, and area sources are identified in **Table 3-7**.

Table 3-7. Unmitigated Long-Term Operational Emissions

Long-Term Operational Emissions of Criteria Air Pollutants						
Source	Annual Emissions (Tons/Year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	0.8	<0.1	0.7	<0.1	<0.1	<0.1
Energy:	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.4	0.8	3.7	<0.1	0.8	0.2
Total Emissions	1.2	0.9	4.4	<0.1	0.9	0.2
<i>SJVAPCD Significance Thresholds:</i>	10	10	100	27	15	15
<i>Exceed SJVAPCD Thresholds?</i>	No	No	No	No	No	No

The results shown in the table above indicate the project would not exceed the significance criteria for annual ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} emissions; therefore, the proposed project would not have a significant effect on regional air quality. SJVAPCD emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} would be below the thresholds. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or State ambient air quality standards.

Long-Term Microscale (CO Hot Spot) Analysis

There is a direct relationship between traffic and circulation congestion and CO impacts because exhaust fumes from vehicular traffic are the primary source of CO, which is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections. These areas of vehicle congestion have historically had the potential to create pockets of elevated levels of CO that are called “hot spots.” However, with the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the project vicinity have steadily declined.

The proposed project would generate approximately 840 average daily trips, with 66 trips occurring in the AM peak hour and 88 trips occurring in the PM peak hour (see **Appendix E**). Given the existing CO concentrations in the project area are relatively low, project-related vehicles are not expected to contribute significantly to increased levels of CO concentrations in the project area. The project is not expected to result in CO concentrations that would exceed the State or federal CO standards. Because no new CO hot spots would occur, there would be no project-related impacts on CO concentrations.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. The closest sensitive receptors to the project site include the single-family residences located immediately east of the project site, along North La Paz Avenue, West Alluvial Avenue, and West Oak Avenue. Single-family residences are also located approximately 1,350 feet south of the project site on North Josephine Avenue.

Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement Regulatory Control Measure AIR-1 described above. With implementation of this mitigation measure, project construction pollutant emissions would be below the SJVAPCD significance thresholds.

In addition, as shown in **Table 3-7**, the emissions from operations resulting from implementation of the proposed project are expected to be below the SJVAPCD’s project level thresholds. The SJVAPCD’s project level thresholds are based in part on Section 180 (e) of the Clean Air Act. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.

Notwithstanding, simply exceeding the SJVAPCD’s project level thresholds does not constitute a particular health impact to an individual nearby. The reason for this is that the project level thresholds are in tons/year emitted into the air, whereas health effects are determined based on the concentration of a pollutant in the air at a particular location (e.g., ppm by volume of air or $\mu\text{g}/\text{m}^3$ of air). CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of ppm or $\mu\text{g}/\text{m}^3$ for the applicable emissions.

Therefore, as identified above, operational emissions associated with the proposed project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for NOX, PM_{2.5}, and PM₁₀. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NOX, VOCs, and ozone (which is a byproduct of NOX and VOCs) have been trending downward within the SJVAB even as development has increased over the last several years. Therefore, the proposed project is not expected to result in any Basin-wide increase in health effects. The impact would be less than significant.

Additionally, the SJVAPCD acknowledges that health effects quantification from ozone, as an example, is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. The SJVAPCD indicates that it would take a large amount of additional emissions to result in a modeled increase in ambient ozone levels over the entire region. As such, it is not currently possible to accurately quantify ozone-related health impacts caused by NOX or VOC emissions from relatively small projects (defined as projects with a regional scope) due to photochemistry and regional model limitations.

Therefore, the proposed project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a Basin-wide level. Current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences. Therefore, implementation of the proposed project is not expected to result in any Basin-wide increase in health effects. Impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact. Heavy-duty equipment in the project area during construction would emit odors, primarily from the equipment exhaust. However, the construction activity would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the project, and no mitigation measures are required.

The SJVAPCD addresses odor criteria within the GAMAQI. The district has not established a rule or standard regarding odor emissions, rather, the district has a nuisance rule, which states, "Any project with the potential to frequently expose members of the public to objectionable odors to be deemed to have a significant impact." The proposed uses are not anticipated to emit any objectionable odors. Therefore, objectionable odors affecting a substantial number of people would not occur as a result of the project. There would be no impact.

3.5 Biological Resources

Table 3-8. Biological Resources Impacts

Biological Resources Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.5.1 Environmental Setting and Baseline Conditions

A Biological Habitat Assessment ([Error! Reference source not found.](#)) was prepared by Argonaut Ecological Consulting, Inc. in June 2021. The biological study focused on mapping existing habitat types based on a field review, reviewing public and communication databases, and reports on adjacent parcels, aerial photographs, and other published information and available data. The site was visited and walked on September 30, 2020, and all habitat features mapped. This information was used to evaluate site suitability for species of concern. The steep bluffs base along the San Joaquin River were not accessed and inventoried since these areas would not be disturbed or developed as part of the proposed project.

The Project site is located west of North Thiele Avenue and south of the San Joaquin River. The Project area climate is typical of the central San Joaquin Valley with summers that are long, hot, and dry and winters that

are cool and mild. In the winter, rainfall averages approximately 10.9 inches per year, falling mainly between November and April (Western Regional Climate Center, 2004). “During the 2019/2020 rainy season (Oct-May), the total rainfall was below average at 8.9 inches, as recorded at Fresno State University, Fresno.”⁵ The area is made up of two parcels designated as Open Space, Regional Park and Multi-Use, and Public Facility – PG&E Substation within the Bullard Community Plan Area. It has been vacant land since 1985. The study mentions that in 2009, a portion of the Project area was used as a borrow pit. Around 2014, the eastern half of the Project area appeared to be used as an illicit dumping. As such, the majority of the east half of the site is disturbed.”⁶ The only structures on the project site are PG&E transmission lines, which traverse the site from towers located adjacent to the property. The San Joaquin River runs along the northern boundary.

The topography is nearly flat, remaining around 295 feet above sea level throughout the site, and remains unchanged since 1919.⁷ There are several habitat types that compose the site. The bluff hosts a dense riparian habitat with few matures trees. South of the bluff includes non-native grassland/disturbed and ruderal habitat. The areas support a dense ground squirrel population. There is no evidence of wetlands despite evidence of a borrow pit. These areas also appeared to be frequently used by children on dirt bikes and bicycles. Consequently since the lot is vacant, there are numerous piles of garbage within the area from illicit dumping.

The Study Area lies within the Upper Dry Watershed (HUC 18030009), sub-shed Scout Island-San Joaquin River HUC (180400010303). This watershed lies along the north and south side of the San Joaquin River from the Highway 99 overpass on the river, upstream past the Highway 41 overpass.⁸ A query of the National Wetland Inventory does not show any mapped waters/wetland within the project area.

The Natural Resources Conservation Service (NRCS) soil survey mapped two soil types within the study areas. None of the soils are mapped as hydric, both soil type are well-drained. Soil types found on the Project site are listed in Table 1 of [Error! Reference source not found.](#)

3.5.2 Regulatory Settings

This section provides a discussion of those laws and regulations that protect wetlands and native wildlife, fish, and plants.

3.5.2.1 Wetland Protection

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Army Corps) and the U.S. Environmental Protection Agency regulates the placement of fill into the Waters of the U.S. under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbor Act. The term "Waters of the U.S." includes wetlands, special aquatic sites, and other non-wetland waters such as bays, rivers, and lakes. The jurisdictional limit of tidal Waters of the U.S. under Section 10 of the Rivers and Harbor Act is the Mean High-Water line. However, Section 404 of the Federal Clean Water Act extends the jurisdictional limit to the High Tide line. The High Tide Line is the highest elevation of the tide in a normal year, excluding storm events. Wetlands adjacent to the Mean High-Water line or High Tide Line are also under the United States Army Corp of Engineers jurisdiction. For this purpose, the term "Waters of the U.S." is legally defined under Section 404 of the Federal Clean Water Act. It includes seasonal drainages with a defined channel and support wetland species but lacks positive indicators of wetland soils.

⁵ Exhibit A.

⁶ Biological Habitat Assessment Tract 6195. Benchmark Communities, Inc. Prepared June 2020.

⁷ Biological Habitat Assessment Tract 6195. Benchmark Communities, Inc. Prepared June 2020.

⁸ Biological Habitat Assessment Tract 6195. Benchmark Communities, Inc. Prepared June 2020.

Since 2001, the U.S. Supreme Court found in several court rulings that regulation of isolated, intrastate waters by the Army Corps have limited the scope of federal jurisdiction under the Federal Clean Water act and excluded many California wetlands from federal regulation

In December 2019, the U.S. Environmental Protection Agency and the U.S. Army published the final rule to repeal the 2015 Clean Water Rule. The "Clean Water Rule" was designed to clarify what constitutes waters of the U.S., and presumably, to define and make permitting more predictable, thus less costly and more straightforward more precisely.

After several challenges to the "Clean Water Rule," a revised rule became effective on June 22, 2020, but the District court for the District of Colorado stayed the effective date of the Rules, but only in Colorado.

California State Water Resources Control Board

Since 1993, California has had a Wetlands Conservation Policy (a.k.a., the Executive Order W-51 59-93). Commonly referred to as the No Net Loss Policy for wetlands, this order establishes a state mandate for developing and adopting a policy framework and strategy to protect the state's wetland ecosystems. The policy was to be implemented voluntarily and was expressly not to be implemented on a "project-by-project" "basis (See EO W-59-93, Section III).

In 2020 the newly adopted State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State went into effect. The procedures, most often, are applied through regional water board sign-off (or "c" certification)" of Corps of Engineers wetland permits. The State definition of wetland differs from the Federal definition in a keyway. Specifically, the state definition defines areas as wetlands that have no vegetation if other criteria are met. Wetlands of the State include 1) natural wetlands, 2) wetlands created by modification of a waters of the state (at any point in history), and 3) artificial wetlands that meet specific criteria. Only a few types of waters are exempted from the State definition of waters. Examples of water features excluded from the state's definition include industrial or municipal wastewater, certain types of stormwater treatment facilities, agricultural crop irrigation, industrial processing or cooling, fields flooded for rice growing.

Listed Protected Species and Habitat Protection

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC Section 703-711), Bald and Golden Eagle Protection Act (16 United States Code [USC] Section 668), and Federal Endangered Species Act (FESA; 16 USC § 153 et seq.).

The Migratory Bird Treaty Act (MBTA) was first enacted in 1916 to protect migratory birds between the United States and Great Britain (acting on behalf of Canada). The MBTA makes it illegal for anyone to take, possess, import, transport, purchase, barter, or offer for sale or purchase any migratory birds, nests, or eggs unless a federal agency has issued a permit. The USFWS has statutory authority and responsibility for enforcing the MBTA. The MBTA was reformed in 2004 to include all species native to the U.S. or its territories, which occur due to natural biological or ecological processes (70 FR 12710, March 15, 2005). The Act does not include non-native species whose occurrences in the U.S. are solely the result of intentional or unintentional human introduction. The USFWS maintains a list of bird species protected under the MCTA and the MBTRA.

In January 2021, the USFWS published a new rule in the Federal Register. Under the rule change, the unintentional killing of migratory birds does not violate the MBTA. Only the intentional "pursuing, hunting, taking, capturing, killing, or attempting to do the same...directed at migratory birds, their nests, or their eggs" would be illegal under the changes.

Federal Endangered Species Act prohibits "take" "of any federally listed species. "Take" "under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. "Candidate species" do not have the full protection of FESA. However, the USFWS advises project applicants that it is prudent to address these species since they could be elevated to "listed status" "before completion of projects with long planning or development schedules. "Incidental take" is harm or death that may occur during the implementation of an otherwise lawful activity.

Projects that would result in "take" "of any federally-listed threatened or endangered species can obtain authorization from the USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA. The authorization process determines if a project would jeopardize a listed species' continued existence and what mitigation measures would be required to avoid jeopardizing the species.

An Incidental Take Permit or Take Permit is required when an activity would either kill, harm, harass, or interrupt a listed species' breeding or nesting. The ESA definition of "harm" is somewhat less definitive since it includes ubiquitous activities. In 1999 the USFWS published in the Federal Register a clarification of the term "harm" as it applies to the ESA. As stated, the final rule defined the term "harm" "to include any act which causes actual harm (kills or injures fish or wildlife) and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

The USFWS cannot require or compel a landowner to obtain an Incidental Take permit, especially under Section 10. On April 25, 2018, the USFWS issued a guidance memorandum intended to help the USFWS' Regional Directors clarify the appropriate trigger for an incidental take permit (ITP) under the Endangered Species Act (ESA). While this guidance was directed internally to USFWS staff to determine whether project-related habitat modification is likely to result in "take" of a listed species, it also provides a tool for project proponents to decide whether to seek an ITP. The guidance emphasizes that the decision to pursue an ITP or whether to cover a species is the project proponent's choice to make and is not up to the USFWS. Further, the guidance recognizes that "the biological, legal and economic risk assessment regarding whether to seek a permit belongs with the private party.

The guidance also clarifies that that habitat modification, in and of itself, does not constitute "take" "unless the three components of "harm" are met. Thus, to find that habitat modification constitutes an incidental take of listed species, the following questions must all be answered in the affirmative:

- Is the modification of habitat significant?
- Does that modification also significantly impair an essential behavior pattern of a listed species?
- Is the significant modification of the habitat likely to result in the actual killing or injury of wildlife?

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW is a Trustee Agency and is responsible under CEQA to review and provide recommendations on projects that could impact plant and wildlife resources). Under the Fish and Game Code Section 1802, the CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations. The California Fish and Game Code also provides authority for the CDFW to regulate projects that could result in the "take" "of any species listed by the state as threatened or endangered (Section 2081). CDFW also has authority over all state streams, as described below.

Perennial and intermittent streams also fall under the jurisdiction of CDFW according to Sections 1601-1603 of the Fish and Game Code (Streambed Alteration Agreements). CDFW's jurisdictional extent includes work within the stream zone, including the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake. Before issuing a 1601 or 1603 Streambed Alteration Agreement, the CDFW must demonstrate compliance with CEQA. In most cases, CDFW relies on the CEQA review

performed by the local lead agency. However, in cases where no CEQA review was required for the project, CDFW would act as the lead agency under CEQA.

The CDFW also has authority for the protection of state-listed species issues under Section 2081 Incidental Take Permit if a project has the potential to negatively affect state-protected plant or animal species or their habitats, either directly or indirectly. Protected species include those "listed" by the state as endangered or threatened. Besides listed species, there are other species protection categories, including "fully protected" and California Species of Special Concern (CSC). Adverse impacts to species that have the "fully protected" designation are prohibited.

Under the California Fish & Game Code (FGC Section 3503), "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird..." Birds of prey (falcons, hawks, owls, and eagles) get extra protection under the law (FGC Section 3503.5).

As is the case with USFW, CDFW does not have the authority to require a landowner to apply for an Incidental Take Permit (ITP) authorizing take. Instead, the landowner has the legal obligation to avoid any take of CTS if it does not seek an ITP or to apply for and receive an ITP that authorizes take. That said, CDFW (and USFWS) can initiate an enforcement action if they believe that illegal take has occurred or will occur.

California Endangered Species Act

The California Endangered Species Act (CESA) protects candidate plants and animal species and those listed as rare, threatened, or endangered by the California Department of Fish and Game (CDFG). This Act prohibits the take of any such species unless authorized. Section 2081 authorizes the state to issue incidental take permits. The state definition of taking applies only to acts that result in the death of or adverse impacts to protected species. The CAESA mirrors the federal regulation as it relates to "take"; however, there is no state equivalent definition of "harm" or "harass." Incidental take is also not defined by the CAESA statute or regulation. Unlike the federal ESA, CAESA does qualify that incidental "take" is not prohibited "if it is the result of an act that occurs on a farm or ranch in the course of an otherwise lawful routine and ongoing agricultural activity." Where disagreement occurs (and in some cases, this has been the subject of court cases) is in the common understanding of "routine and ongoing agricultural activity".

California Environmental Quality Act

The CEQA Guidelines require a review of projects to determine their environmental effects and identify mitigation for significant effects. The Guidelines state an effect may be significant if it affects rare and endangered species. Section 15380 of the Guidelines defines rare to include listed species and allows agencies to consider rare species other than those designated as State or Federal threatened or endangered, but that meet the standards for rare under the Federal or State endangered species acts. On this basis, plants designated as rare by non-regulatory organizations (e.g., California Native Plant Society), species of special concern as defined by CDFW, candidate species as defined by USFWS, and other designations may need to be considered in CEQA analyses.

City of Fresno General Plan

The City of Fresno General Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project's environmental review:

- **Objective POSS-5: Provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat.**
- **Policy POSS-5-c: Buffers for Natural Areas.** Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

Table 3-9. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
Swainson's hawk (<i>Buteo swainsoni</i>)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Absent
burrowing owl (<i>Athene cunicularia</i>)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	Unlikely
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	Absent
valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	Absent

Table 3-10. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
hairy Orcutt grass (<i>Orcuttia pilosa</i>)	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	Absent

EXPLANATION OF 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 due to absence of suitable habitat

STATUS CODES

- FE Federally Endangered
- FT Federally Threatened
- FPE Federally Endangered (Proposed)
- FPT Federally Threatened (Proposed)
- FC Federal Candidate
- CE California Endangered
- CT California Threatened
- CCT California Threatened (Candidate)
- CFP California Fully Protected
- CSC California Species of Special Concern
- CWL California Watch List
- CCE California Endangered (Candidate)
- CR California Rare

CNPS LISTING

- 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

3.5.3 Impact Assessment

a) 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 Game or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated. The Project area is highly disturbed non-native grassland/disturbed habitat and conversion of the habitat would not result in any impacts to special status

species. However, although not currently present, the Project area could support burrowing owl nesting (ground nesting raptor) and American badger prior to site development. There is no evidence of occupation by San Joaquin kit fox but the species could establish a den before the site is developed.

Implementation of the following measures are recommended to avoid and to reduce any potential impact on special status species during construction to less than significant.

Mitigation Measures

BIO-1: If possible, construction/grading should begin between September 1st – January 31st to avoid starting construction during the nesting period.

BIO-2: If construction is initiated between February 1st and August 30th, conduct a pre-construction survey for active raptor nests along the top of bank (there are no other trees on the site). If any active raptor nest is encountered, then a buffer zone should be established (based on the biologist recommendations) and monitoring performed to watch for potential nest abandonment. If the nesting pair shows signs of pending nest abandonment, then the biologist must consult with the CDFW to determine what further actions are needed to prevent abandonment.

BIO-3: No more than 30 days prior to construction, a biologist should inspect the site to determine whether burrowing owl, American badger, or San Joaquin kit fox have taken up residence. Consultation with the appropriate regulatory agencies (USFWS/CDFW) should be initiated if any of these species are found on the site.

BIO-4: At the start of construction, the work crew should be educated on the potential for special status species to be encountered. The training should include species information (burrowing owl, San Joaquin kit fox, American badger) and avoidance and protection measures to be taken if encountered.

b) 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?

Less than Significant with Mitigation Incorporated. The Project includes a minimum 36-foot wide trail at the bluff edge located at the north side of the Project area along the San Joaquin River. No other development is proposed within the setback, therefore there is no potential impact on riparian habitat. There are no other sensitive natural communities located within or near the Project area in local, regional plans and there is no designated sensitive habitat identified by the CDFW or USFWS. As a precautionary measure the following measure is recommended to ensure the riparian habitat is not disturbed during construction, and thus impacts will remain less than significant.

Mitigation Measures

BIO-5: Prior to any ground disturbance, bright orange fencing should be installed along the riparian bluff (top of bank) to keep any construction activities (equipment staging, parking, laydown of materials) from encroaching into the riparian/bluff zone.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no federally or State jurisdictional wetlands or drainages within the Project area. The Project would not impact federally protected wetlands. There would be no impact.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. The Project area does not support any established migratory or movement corridor for wildlife. The bluff area along the San Joaquin River is likely used for wildlife movement along the river but this area would not be impacted by the Project. No impact to wildlife movement would occur. The proposed development includes a riparian setback from the bluff area. There would be no impact.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. No trees are proposed to be removed. Buildout of the Project would not impact any biological resources protected by local policies or ordinances. The only trees within the Study Area are along the river bluff and those trees will be preserved within an established development setback. There would be no impact.

f) 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?

Less than Significant Impact. The Study Area is not within any adopted conservation plan or local or regional conservation plan. Buildout of the Proposed Project would not conflict with any established or adopted plan. The impact would be less than significant.

3.6 Cultural Resources

Table 3-11. Cultural Resources Impacts

Cultural Resources Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.6.1 Environmental Setting and Baseline Conditions

Cultural Resources field surveys were conducted by Mike Lawson, Peak & Associates, Inc. on the Project site on November 7, 2018. A report entitled *Cultural Resource Assessment for the Tract 6195, Tapestry III Project Area, City of Fresno, California* dated November 19, 2018 (**Appendix B**) included a record search conducted through the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information at California State University Bakersfield (CSUB). The northern portion of the project area had been surveyed by Dudley Varner in 2005, with negative findings. Several other surveys had been conducted in the project area vicinity. No sites have been recorded in the project area. To the west and northwest, within a 0.125-mile radius of the Project area, the Herndon Substation and a transmission line segment in Madera County have been recorded by Applied Earthworks staff members.

Within the areas proposed for disturbance, the report determined that the land of the parcel is partially leveled and graded with some natural slopes remaining. Plowing has had occurred in the past.

Due to the close proximity to a sizable water source (The San Joaquin River), the survey technique included close parallel transects of no more than five meters with occasional overlapping lanes. Closer scrutiny was also given to areas of rodent burrowing activity.

The visibility of ground was excellent, partly due to recent plowing but also the result of heavy rodent disturbance resulting in large mounds of mixed soil. The soil components were noted as fine silt, with little or no sand, gravels or other stone, consistently light tan in color throughout the acreage.

Modern dumping and other activities have introduced manufactured road base gravel, concrete, and broken cobbles, but no rock showed evidence or characteristics of prehistoric modification or use-wear.

Throughout the parcel, debris piles and scattered refuse from dumping is present, with all materials appearing to be modern household waste. In the east end of the project area, several piles of dumped soil and sand are present. Although lumber, concrete, steel and plastic pipes were observed throughout the property, no evidence of historic occupation or the older dwelling was noted. Apparently, demolition of the residence was very complete in nature.

There is no surface evidence of prehistoric period or historic period cultural resources within the project area.

3.6.2 Regulatory Settings

3.6.2.1 Federal

National Historic Preservation Act. The National Historic Preservation Act of 1966 (NHPA) is the most concise and effective federal law dealing with historic preservation. Federal preservation law does not apply to the purpose of this analysis but a short review of the legislation is needed because the State and Local requirements have been derived from this legislation. The NHPA established guidelines to “preserve important historic, cultural, and natural aspects of our cultural heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice.” The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (known as Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. In addition, the NHPA authorizes the Secretary of the Interior to establish a National Register of Historic Places (The National Register). The Register is an inventory of districts, sites, buildings, structures and objects significant at a national, State, or local level in American history, architecture, archaeology, engineering, and culture. The National Register is wholly maintained by the National Park Service, the Advisory Council on Historic Preservation, and the State Office of Historic Preservation (SHPO) and grants-in-aid programs.

According to the National Park Service (NPS) and the State Historic Preservation Office (SHPO), the City is a Certified Local Government (CLG). The CLG program is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level. The program is jointly administered by NPS and SHPO, with each local community working through a certification process to become recognized as a CLG. CLG’s become an active partner in the Federal Historic Preservation Program and the opportunities (and funding) it provides.

3.6.2.2 State

California Register of Historical Resources. The California Register of Historical Resources (California Register or CRHR) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Important cultural resources can be listed in the California Register through a number of methods, and listing requires approval from the State Historical Resources Commission. Properties can be nominated to the California Register by local governments, private organizations, or citizens. State Historical Landmarks and National Register-listed properties gain automatic listing in the California Register. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. In order for a cultural resource to be significant, or in other words eligible, for listing in the California Register, it must reflect one or more of the following criteria (PRC 5024.1c):

- **Criterion 1 (Events):** Resources that are 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.
- **Criterion 2 (Persons):** Resources that are associated with the lives of persons important to local, California, or national history.
- **Criterion 3 (Architecture):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Environmental Quality Act. CEQA requires that public agencies assess the effects on historical resources of public or private projects that the agencies finance or approve. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

However, only significant historical resources need to be addressed. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

1. Identify potential historical resources.
2. Evaluate the eligibility of historical resources.
3. Evaluate the effects of the project on all eligible historical resources.

In addition, properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1[d][1]).

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment (State CEQA Guidelines 15064.5[b]). CEQA also states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of an historical resource or its immediate surroundings such that the significance of the resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or materially and adversely alter the physical characteristics of a historical resource that convey its historical significance and qualify or justify its eligibility for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Significant Historical Resources under CEQA Guidelines. In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a). The four categories are:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) including the following:
 - a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- b) Is associated with the lives of persons important in our past;
 - c) Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
 - d) Has yielded, or may be likely to yield, information important in prehistory or history.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.

A lead agency must consider a resource that has been listed in, or determined to be eligible for listing in the California Register (Category 1) as a historical resource for CEQA purposes. In general, a resource that meets any of the other three criteria listed in CEQA Guidelines Section 15064.5(a) is also considered to be a historical resource unless “the preponderance of evidence demonstrates” that the resource is not historically or culturally significant.”

State Health and Safety Code. The discovery of human remains is regulated according to California Health and Safety Code Section 7050.5, which states, “If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified to the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify Most Likely Descendant (MLD). With the permission of the landowner or his or her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.”

California Government Code 65352.3-5: Local Government-Tribal Consultation. California Government Code Sections 65092, 65351, 65352, 65352.3, and 65352.4, formally known as Senate Bill (SB) 18, regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption and amendment of general plans.

Senate Bill 18. Senate Bill (SB) 18, signed into law in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting or mitigating impacts to cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (Government Code Section 65300 et seq.) and specific plans (Government Code Section 65450 et seq.). Specifically, Government Code Section 65352.3 requires local governments, prior to making a decision to adopt or amend a general plan, to consult with California Native American tribes identified by the NAHC for the purpose of protecting or mitigating impacts to cultural places. As previously discussed, the NAHC is the State agency responsible for the protection of Native American burial and sacred sites.

Assembly Bill 52. Assembly Bill (AB) 52, the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice

of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. AB 52 adds tribal cultural resources (TCR) to the specific cultural resources protected under CEQA. Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

3.6.2.3 Local

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the city. The following objective and policies related to cultural resources are presented in the General Plan:

- **Objective HCR-1:** Maintain a comprehensive, citywide preservation program to identify, protect and assist in the preservation of Fresno’s historic and cultural resources.
- **Objective HCR-2:** Identify and preserve Fresno’s historic and cultural resources that reflect important cultural, social, economic, and architectural features so that residents will have a foundation upon which to measure and direct physical change.
 - **Policy HCR-2-a:** Identification and Designation of Historic Properties. Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno’s Local Register of Historic Resources and California and National registries, as appropriate.
 - **Policy HCR-2-c:** Project Development. Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior’s Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.
 - **Policy HCR-2-d:** Native American Sites. Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.
 - **Policy HCR-2-f:** Archaeological Resources. Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

City of Fresno Municipal Code

Historic Preservation Ordinance. The City of Fresno has established a Historic Preservation Commission and a Local Register of Historic Resources (Fresno Municipal Code, Chapter 12, Article 16). The Ordinance is used to provide local levels of control over the historical aesthetics of cultural resources within the city, and to ensure that the potential impact to locally significant historical resources that may be the subject of redevelopment are given reasonable consideration. The purpose of the Ordinance is to:

[...] continue to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; to continue to protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this city, state and nation; to continue to safeguard the heritage of this city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the city’s historic, cultural, social, economic, political and architectural history; to continue to preserve and enhance the environmental quality and safety of these

landmarks and districts; to continue to establish, stabilize and improve property values and to foster economic development. (Article 16 Section 12-1602(a).)

The Ordinance provides legislative mechanisms to protect certain historical resources. Local registers of identified historical resources are known, including:

1. **Heritage Properties.** These are defined as a resource which is worthy of preservation because of its historical, architectural or aesthetic merit but which is not proposed for and is not designated as an Historic Resource under the ordinance.
2. **Historic Resources.** These are defined as any building, structure, object or site that has been in existence more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling and association, and is associated with events that have made a significant contribution to the broad patterns of city history, or is associated with the lives of persons significant in our past, or embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master or possesses high artistic values; or has yielded, or may be likely to yield, important information in prehistory or history; and has been designated as such by the Council pursuant to the provisions of the Ordinance.
3. **Local Historic Districts.** These are defined as any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. The Local Historic District must be significant as well as identifiable and it must meet Local Register Criteria for listing on that Register. Contributors to Historic Districts are defined as any Historic Resource that contributes to the significance of the specific Local Historic District or a proposed National Register Historic District under the criteria set forth in the Ordinance.
4. **National Register Historic Districts,** which shall mean any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. A National Register Historic District must be significant as well as identifiable and it must meet National Register Criteria for listing on that Register. Contributors to a National Register Historic District are defined as any individual Historic Resource which contributes to the significance of a National Register Historic District under the criteria set forth in the Ordinance.
5. **Certified Local Government.** The Certified Local Government (CLG) Program is administered by the State Historic Preservation Office (OHP). When a Lead Agency becomes a CLG it agrees to carry out the intent of and serve as a local steward of the National Historic Preservation Act and the Secretary of the Interior's Standards. In meeting those standards, OHP serves as an advisor. The use of the National Register/California Register criteria and the Secretary of the Interior Standards integrates local, state, and federal levels of review. It brings clarity to the question of what resources are significant when it comes to CEQA and Section 106 of the National Historic Preservation Act. Adopting the Secretary of the Interior's Standards will allow the use of categorical exemptions under CEQA, and likely result of findings of no adverse effect under Section 106. The use of these criteria and standards make environmental review faster, more efficient, and reduces costs and delays. The City has been certified as a CLG since September 1996.

3.6.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?

Less than Significant Impact. A field survey was conducted by Mike Lawson, Peak & Associates, Inc. A record search was also conducted through the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information at California State University Bakersfield (CSUB). According to the SSJVIC records search, the northern portion of the project area had been surveyed by Dudley Varner in 2005, with negative findings. Several other surveys had been conducted in the project area vicinity. No sites have been recorded in the project area. To the west and northwest, within a 0.125-mile radius of the Project area, the Herndon Substation and a transmission line segment in Madera County have been recorded by Applied Earthworks staff members. Therefore, there will be a less than significant impact for the potential to cause a substantial adverse change in the significance of a historical resource.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact with Mitigation Incorporated. Field surveys were conducted by Mike Lawson, Peak & Associates, Inc. and a record search was provided by the SSJVIC at CSUB. No prehistoric sites were found during the field survey. The survey determined there is a slight possibility that a site may be unearthed during Project activities. The records search determined that there are no recorded prehistorical resources within the Project site. Therefore, with incorporation of CUL-1, impacts to archaeological resources that may potentially exist on site will be less than significant.

Mitigation Measure

CUL-1: Should archaeological remains or artifacts be unearthed during any stage of Project activities, work in the area of discovery shall cease until the area is evaluated by a qualified archaeologist. If additional mitigation is warranted, the Project proponent shall abide by recommendations of the archaeologist.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact with Mitigation Incorporated. There is no evidence or record that the Project has the potential to be an unknown burial site, or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of CUL-2, impacts resulting from the discovery of remains interred on the Project site would be less than significant.

Mitigation Measure

CUL-2: In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains until the Fresno County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

If the Fresno County Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).

After notification, the NAHC will follow the procedures outlined in Public Resources Code Section 5097.98, that include notification of most likely descendants (MLDs), and recommendations for treatment of the remains. The MLDs will have 24 hours after notification by the NAHC to make their recommendations (PRC Section 5097.98).

3.7 Energy

Table 3-12. Energy Impacts

Energy Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.7.1 Environmental Setting and Baseline Conditions

The site currently consists of a vacant lot. No energy is consumed with the exception of periodic visits for weed removal.

3.7.2 Regulatory Setting

3.7.2.1 Federal

Energy Independence and Security Act of 2007

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce the United States' dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil and confronting climate change. Specifically, it does the following:

- *Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022.*
- *Reduces United States demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020, an increase in fuel economy standards of 40 percent as compared to 2007 levels.*

The Energy Independence and Security Act of 2007 also set energy efficiency standards for lighting (specifically light bulbs) and appliances. Development would also be required to install photosensors and energy-efficient lighting fixtures consistent with the requirements of 42 United States Code Section 17001 et seq.

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles sold in the United States. The law placed responsibility on the National Highway Traffic and Safety Administration (NHTSA) for establishing and regularly updating vehicle standards. The United States Environmental Protection Agency (U.S. EPA) administers the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the Corporate Average Fuel Economy program, the average fuel economy for new light-duty vehicles steadily increased from 13.1 miles per gallon for the 1975 model year to 30.7 miles per gallon for the 2014 model year and is proposed to increase to 54.5 by 2025. Light-duty vehicles include autos, pickups, vans, and sport-utility vehicles.

Energy Star Program

Energy Star is a voluntary labeling program introduced by U.S. EPA to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the U.S. EPA joined with the Energy Department to expand the program, which now also includes certifying commercial and industrial buildings as well as homes.

Construction Equipment Fuel Efficiency Standard

The U.S. EPA sets emission standards for construction equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068. Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015.

3.7.2.2 State

California Energy Action Plan

The CEC is responsible for preparing the California Energy Action Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The 2008 California Energy Action Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, as well as encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and California Air Resources Board (CARB) prepared and adopted a joint-agency report, Reducing California's Petroleum Dependence, in 2003. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand. In response to the CEC's 2003 and 2005 Integrated Energy Policy Reports, the Governor directed the CEC to take the lead in developing a long-term plan to increase alternative fuel use.

Integrated Energy Policy Report

SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC uses these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. The most recent assessment, the 2018 Integrated Energy Policy Report, contains two volumes. Volume I highlights the implementation of California's innovative policies and the role they have played in establishing a clean energy economy. Volume II provides more detail on several key energy policies, including decarbonizing buildings, increasing energy efficiency savings, and integrating more renewable energy into the electricity system.

Senate Bill 350

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires a doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

California Renewable Portfolio Standard and Senate Bill 100

Approved by former Governor Brown on September 10, 2018, SB 100 accelerates the state’s Renewable Portfolio Standard program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Assembly Bill 1493: Reduction of Greenhouse Gas Emissions

AB 1493 (2002), California’s Advanced Clean Cars program (referred to as “Pavley”), requires CARB to develop and adopt regulations to achieve “the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” Implementation of new regulations prescribed by AB 1493 required that the state of California apply for a waiver under the federal Clean Air Act. Although the USEPA initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions.

On September 19, 2019, the U.S. EPA withdrew California’s Clean Air Act preemption waiver and issued the One National Program Rule, which prohibits states from establishing their own separate fuel economy standards or passing laws that substantially affect fuel economy standards. As a result, California may no longer promulgate and enforce its tailpipe GHG emission standard and zero emission vehicle mandate.

Energy Action Plan

In 2003, the CEC and California Public Utilities Commission set forth their energy policy vision in the Energy Action Plan (EAP). The CEC adopted an update to the EAP in February 2008 (EAP II) that supplements the earlier EAP and examines the state’s ongoing actions in the context of global climate change. The nine major action areas in the EAP include energy efficiency, demand response, renewable energy, electricity adequacy/reliability/infrastructure, electricity market structure, natural gas supply/demand/infrastructure, transportation fuels supply/demand/infrastructure, research/development/demonstration, and climate change.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare a plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other federal, state, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California’s goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan (Executive Order S-06-06)

Executive Order (EO) S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following in-state production targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources:

- Produce 20 percent of biofuels used in California by 2010;
- Produce 40 percent of biofuels used in California by 2020; and,
- Produce 75 percent of biofuels used in California by 2050.

EO S-06-06 also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies potential barriers and recommends actions to address them so the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
- Create jobs and stimulate economic development, especially in rural regions of the state
- Reduce fire danger, improve air and water quality, and reduce waste.

Title 24, California Code of Regulations

California Code of Regulations, Title 24, Part 6, is California’s Energy Efficiency Standards for Residential and Non-residential Buildings. The CEC established Title 24 in 1978 in response to a legislative mandate to create uniform building codes to reduce California’s energy consumption and provide energy efficiency standards for residential and nonresidential buildings. The standards are updated on an approximately three-year cycle to allow consideration and possible incorporation of new efficient technologies and methods. In 2019, the CEC updated Title 24 standards with more stringent requirements effective January 1, 2020. All buildings for which an application for a building permit is submitted on or after January 1, 2020, must follow the 2019 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

California Green Building Standards Code (2019), California Code of Regulations Title 24, Part 11

California’s Green Building Code, referred to as CalGreen, was developed to provide a consistent approach to green building in the State. Having taken effect in January 2020, the most recent version of CalGreen lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved energy efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety, and general welfare by promoting a more sustainable design.

2017 Climate Change Scoping Plan

On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the State’s 2030 GHG emissions reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation. The 2017 Scoping Plan includes a wide variety of goals related to energy efficiency and renewable energy that are intended to help meet the State’s 2030 target, including goals specifically targeted at the water sector.

3.7.2.3 Regional and Local

Fresno Council of Governments 2018 – 2042 Regional Transportation Plan/Sustainable Communities Strategy

The Regional Transportation Plan (RTP) is a comprehensive assessment of all forms of transportation available in Fresno County and of the needs for travel and goods movement. The 2014 RTP contains a Sustainable Communities Strategy (SCS) as required by SB 375. Enacted in 2008, SB 375 requires that each Metropolitan Planning Organization include an SCS that provides an integrated land use and transportation plan for meeting greenhouse gas emission reduction targets set forth by the California Air Resources Board (CARB).

In June 2018, Fresno COG adopted the 2018-2042 RTP/SCS. The Draft 2018-2042 RTP/SCS charts the 25-year course of transportation to 2042 to address greenhouse gas emissions reductions and other air emissions. The RTP is made up of a variety of different elements or chapters, and each element is augmented by additional

documentation. The RTP also contains a chapter that establishes the SCS to show how integrated land use and transportation planning can lead to lower greenhouse gas emissions from autos and light trucks, as well as improve overall quality of life in the region.

Fresno General Plan

The City of Fresno implements the following policies that are applicable to the Project related to energy consumption:

Chapter 3, Urban Form, Land Use, and Design

LU-5-c Medium Density Residential Uses. Promote medium density residential uses to maximize efficient use of residential property through a wide range of densities.

Chapter 7, Resource Conservation and Resilience

RC-8-a Existing Standards and Programs. Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.

RC-8-b Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and non-residential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.

RC-8-c Energy Conservation in New Development. Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.

RC-8-d Incentives. Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.

RC-8-h Solar Assistance. Identify and publicize information about financial mechanisms for private solar installations and provide over-the-counter permitting for solar installations meeting specified standards, which may include maximum size (in kW) of units that can be so approved.

3.7.3 Impact Assessment

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. The Project would comply with Building Energy Efficiency Standards included in Title 24 of the California Code of Regulations, which requires new residential development to incorporate energy efficiency standards into Project designs. In addition, the Project would implement General Plan policies. The Project proposes the construction of medium density residences to use land to emphasize conservation, successful adaptation to climate and changing resource conditions, and performance effectiveness in the use of energy, water, land, buildings, natural resources, and fiscal resources required for the long-term sustainability of Fresno. The planned land uses require design that provides for walkable and pedestrian-scaled developments and efficient use of resources (LU-5-b). The General Plan provides for the implementation of incentives, design and operations standards that promote alternative energy sources and cost-effective savings (Policies RC-8-a, RC-8-b, RC-8-c, RC-8-d, and RC-8-h).

Natural gas for the Project and the surrounding area are serviced by PG&E. The Project site does not currently have a demand for natural gas usage and the Project would represent an increase in natural gas usage. However, PG&E has indicated it can meet the increased demand for natural gas with its existing facilities and through engaging in Energy Efficiency (EE) programs. PG&E's EE programs include services to customers such as evaluating consumption options, equipment retrofits, and rebates among other EE programs. As a result of its EE programs PG&E forecasts a trend in savings in natural gas consumption from approximately 2 billion cubic feet (bcf) to approximately 27 bcf in 2030.⁹ This overall trend in reduced natural gas consumption would result in new projects, including the subject Project having reduced impacts related to natural gas consumption.

Current regulations for construction equipment, heavy-duty equipment, and earthmoving equipment used in construction contributes to reductions in energy as well as reduction in pollutant emissions. California implemented its In-Use Off-Road Diesel Fueled Fleets regulations (off-road regulation) which applies to all self-propelled off-road diesel vehicles 25 horsepower or greater and most two-engine vehicles. The Small Off-Road Engines program was implemented by California to apply to categories of outdoor powered equipment and specialty vehicles often used in construction.

Through compliance with energy reduction standards and regulations aimed at reducing consumption of transportation related energy consumption, as well as the energy provider's energy reduction programs, the Project will have less than significant impacts related to energy usage during Project operations and construction and its impacts related to wasteful, inefficient, or unnecessary energy consumption overall, would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. Project design, construction and operation would comply with the City's Green Handbook, a guide for builders to achieve sustainability. The Green Handbook is a component of the City of Fresno's Strategy for Achieving Sustainability. The Green Handbook's standards are supported by the City's General Plan policies and regulated through Title 24 building code requirements, such as energy efficient building materials and appliances. Compliance with these applicable policies would support a decrease in energy consumption and GHG emissions enabling the Project to contribute to sustainable community goals and the goals of AB 32. The Project would not conflict with any of the applicable plans including Title 24, AB 32, SB 32, SB 350, and SB 100, therefore the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and would be less than significant.

⁹ (California Gas and Electric Utilities, 2019).

3.8 Geology and Soils

Table 3-13. Geology and Soils Impacts

Geology and Soils Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Environmental Setting and Baseline Conditions

3.8.1.1 Geology and Soils

The Project is located in central Fresno County, in the southern section of California’s Great Valley Geomorphic Province, or Central Valley, directly adjacent to the south of a portion of the San Joaquin River. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply

upturned along the western margin due to the uplifted Sierra Nevada Range.¹⁰ From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.8.1.2 Faults and Seismicity

Most of Fresno is situated within an area of relatively low seismic activity and is not located within a known active earthquake fault zone¹¹. The Project is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within the City of Fresno. The nearest major fault is the San Andreas Fault, located approximately 72 miles southwest of the Project site. The San Andreas fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. The San Joaquin Fault is located approximately 56 miles west of the Project site.

3.8.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in Fresno County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. Soil types along the Valley floor are not generally conducive to liquefaction because they are generally too coarse. Furthermore, the average depth to groundwater within the City of Fresno is approximately 85 to 95 feet which also minimizes liquefaction potential.

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils, high in silt or clay content, that become saturated. Although some areas in Fresno County have experienced subsidence due to groundwater overdraft, the City of Fresno's elevation has remained relatively unchanged. Soils of the Project site are listed in Table 1 of [Error! Reference source not found.](#). Soils onsite represent a low risk of subsidence.

3.8.1.5 Dam and Levee Failure

Hundreds of dams and reservoirs have been built in California for water supply, flood control, hydroelectric power, and recreational uses. The storage capacity of these dams varies across the State from large reservoirs with capacities exceeding millions of acre-feet (AF) to small reservoirs with capacities from hundreds to thousands of AF. Depending on the season, water from these reservoirs is released into the river system of the State and eventually reaches the Pacific Ocean. The San Joaquin River, located at the north edge of the City of Fresno, is the primary river in the vicinity. The San Joaquin River is impounded by a dam which forms the 520 thousand acre- foot Lake Millerton, approximately 16 miles northeast of the Project site. If Friant dam were to fail, a large portion of Fresno County, including the City of Fresno, would be inundated with water.

3.8.1.6 Regulatory Settings

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the City. The following objective and policies related to land use and planning are presented in the General Plan:

¹⁰ (Harden, 1998)

¹¹ California Department of Conservation. Fault Activity Map of California. Website: <https://maps.conservation.ca.gov/cgs/fam/>. Accessed 5/24/21.

- **Policy NS-2-d: Bluff Preservation Overlay Zone.** Per the requirements of the Bluff Preservation Overlay Zone District and Policy POSS-7-f (Chapter 5, Parks and Open Space), the following standards shall be applicable for property located within the Bluff Preservation zone:
 - Require proposed development within 300 feet of the toe of the San Joaquin River bluffs to undertake an engineering soils investigation and evaluation report that demonstrates that the site is sufficiently stable to support the proposed development, or provide mitigations to provide sufficient stability; and
 - Establish a minimum setback of 30 feet from the San Joaquin River bluff edge for all buildings, structures, decks, pools and spas (which may be above or below grade), fencing, lighting, steps, etc.
 - An applicant may request to reduce the minimum setback to 20 feet from the bluff edge if it can be demonstrated, to the satisfaction of the City's Building Official and the Planning Director, that the proposed building, structure, deck, pool and/or spas (which may be above or below grade), fencing, steps, etc., will meet the objectives of the Bluff Preservation Overlay Ordinance. In no case shall the setback be reduced to less than 20 feet.

- **Policy POSS-7-f: River Bluffs.** Preserve the river bluffs as a unique geological feature in the San Joaquin Valley by maintaining and enforcing the requirements of the "BP" Bluff Preservation Overlay Zone District, maintaining the bluff area setback for buildings, structures, decks, pools and spas (which may be above or below grade), fencing, and steps, and maintaining designated vista points.
 - Strive to assure that development of the parkway and other uses within the San Joaquin river bottom environs are consistent with the mineral resources conservation zones; honor flood, environmental, recreational and aesthetic issues; protect natural habitats and historic resources; and consider adjacent property owners.
 - Take an active role in establishing park entrance. Provide all gates, trails and roads adequate access by emergency vehicles such as fire trucks, police cars, and ambulances.
 - For safety reasons, access may be limited to points that have controlled access gates. Cooperation of private parties having legal control of river bottom access shall be sought in this effort.
 - Continue to work toward the adoption of official plan lines for new segments of the San Joaquin River Trails and actively pursue completion of these segments to ensure that adequate and appropriate public access to the San Joaquin River and the Parkway is provided. Refer to Policy NS-2-d (Chapter 9, Noise and Safety) for additional information for sites within the BP Overlay District.

City of Fresno Municipal Code

Section 15-1603. Bluff Protection (BL) Overlay District Purpose. The Bluff Protection (BL) Overlay District is intended to provide special land development standards that will preserve the integrity of the natural landscape of the southerly San Joaquin River Bluffs, adjacent properties, and adjacent open spaces as areas of special quality by reason of the topography, geologic substratum, and environment of the area. Regulations for the BL Overlay District are deemed necessary for the preservation of the special qualities of the southerly San Joaquin River Bluffs, and for the protection of the health, safety, and general welfare of owners and users of property within the River Bluff Influence Area. A civil engineer or soils engineer registered in the State of California must investigate existing conditions and report on soil and geologic conditions, utilizing methods consistent with accepted practices. This regulation applies to areas within 300 feet of the toe of the San Joaquin River bluff.

3.8.2 Impact Assessment

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a-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.

Less than Significant Impact. The Project site, and its vicinity, are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). The nearest active fault to the Project is the San Joaquin Fault, located approximately 56 miles west of the Project site. The San Andreas Fault, creeping section is approximately 72 miles southwest. Based on this information, the Project would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault. The impact would be less than significant.

a-ii) Strong seismic ground shaking?

Less than Significant Impact. As discussed above in Section 3.8.2 Impact Assessment “a-i”, the Project site and its vicinity, are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code).

Although there are no known earthquake faults within the vicinity of the Project, and strong ground shaking is unlikely, construction of the proposed residential structures would comply with the most recent seismic standards as set forth in the California Building Standards Code. Compliance with these standards would ensure potential impacts related to strong seismic ground shaking would be less than significant.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. According to the California Department of Conservation (DOC)’s Earthquake Zones of Required Investigation map, the Project site would not be located in an area identified to be at a risk of liquefaction.¹² Like most of California, the Project site would be located in an area that does experience seismic related activity to varying degrees. However, the Project site is not located in the vicinity of a fault zone or an identified area that would result in substantial seismic related ground failure that would result in adverse effects to people or the environment.

a-iv) Landslides?

Less than Significant Impact. Landslides usually occur in locations with steep slopes and unstable soils. The Project is located on the Valley floor where no major geologic landforms exist, and the topography is essentially flat and level. The nearest foothills are more than eight miles away. The Project site would be located adjacent to the San Joaquin River and corresponding bluffs to the north. As a part of the Bluff Protection Overlay District the Project would be required to adhere to setback standards unique to the overlay district. The setback standards enforced would limit the potential for any possible landslide event. Therefore, the Project site has minimal-to-no landslide susceptibility, and there will be no impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Earthmoving activities associated with the Project would include excavation, trenching, grading, and construction over an area of approximately 17.58 gross acres. These activities could

¹² California Department of Conservation. Earthquake Zones of Required Investigation. Website: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed 6/25/21.

expose soils to erosion processes however, the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with residential construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the Project's impacts would be less than significant.

c) 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?

Potentially Significant Impact. The Project would not be located in an area 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. The DOC has not identified the Project site as being in an area that would be at risk of lateral spreading, and liquefaction or collapse¹³. In addition, the United States Geologic Survey has not identified the Project area as a location that is likely to experience soil subsidence.¹⁴ While the Project is located in the vicinity of a bluff area created by the San Joaquin River to the north, the Project would be constructed following the standards and policies provided in the Bluff Protection Overlay District of the City of Fresno Municipal Code. This would limit any potential occurrence of a landslide event in the Project area. Like most of California, the Project site would experience seismic activity to a varying degree, however, the site has not been identified as a location that would present potential impacts due to seismic occurrences. The Fire Department requires that the trail, located at the bluff edge, be engineered to withstand 25,000-pound fire apparatus. The amount of weight located at the bluff edge is a concern and could be a potentially significant impact, one which will be analyzed in the EIR.

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

No Impact. The Project would not be located on expansive soil creating a substantial direct or indirect risk to life or property. The Project would be located on land that is comprised of 95.5 percent Hanford fine sandy loam and 4.5 percent Pollasky fine sandy loam according to an NRCS Web Soil Survey on the Project site. Neither soil is expansive nor made of clay. Therefore, there would be no impact.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project would be required to connect to the City's sewer system. Septic installation or alternative wastewater disposal systems are not necessary for the Project. There would be no impact.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact. The Project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. A Cultural survey conducted in November 2018 from that there

¹³ California Department of Conservation. Earthquake Zones of Required Investigation. Website: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed 6/25/21.

¹⁴ USGS. Areas of Land Subsidence in California. Website: https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html. Accessed 6/25/21.

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Vesting Tentative Tract Map No. 6195

was no evidence of any cultural resources on the Project site. In the event that a cultural resource or human remains are discovered during the construction process, construction would be halted and an archeologist would be examine the findings. Therefore, impacts would be less than significant.

3.9 Greenhouse Gas Emissions

Table 3-14. Greenhouse Gas Emissions Impacts

Greenhouse Gas Emissions Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Environmental Setting and Baseline Conditions

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO₂) is an odorless, colorless natural greenhouse gas. CO₂ is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH₄) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N₂O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O₃) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth’s surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur

hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF₆) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO₂ to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO₂, CH₄, and N₂O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO₂e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH₄ has the same contribution to the greenhouse effect as approximately 21 tons of CO₂. Therefore, CH₄ is a much more potent GHG than CO₂.

3.9.2 Regulatory Setting

3.9.2.1 Federal

Federal Clean Air Act

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for executing the federal Clean Air Act (CAA) and its amendments. In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO₂) is an air pollutant, as defined under the CAA, and thus the EPA has the authority to regulate GHG emissions. The ruling resulted in the EPA taking steps to regulate GHG emissions and lend support for State and local agency in their efforts to reduce GHG emissions.

Federal Regulations for Vehicle Fuel Economy Standards

The EPA and the National Highway Traffic Safety Administration (NHTSA) in 2012 issued final rules to reduce GHG emissions and improve the Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles of model years 2017 and beyond. These CAFE standards have been enacted since 1978 under the Energy Policy and Conservation Act. This program requires automobile manufacturers to build a single nation light-duty fleet that meets both the requirements under federal programs and those of California and other states. This program would improve fuel economy to 54.5 miles per gallon-equivalent (mpge) limiting vehicle emissions to 153 grams of CO₂ per mile for the fleet of cars and light-duty trucks by model year 2025, which represents five percent annual increases in fuel economy.

The EPA and NHTSA jointly published in 2018 a notice of proposed rulemaking entitled “The Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks” (SAFE Rule), which proposed:

- (1) new and amended CO₂ and CAFE standards for passenger cars and light trucks;
- (2) to withdraw the waiver EPA had previously provided to California for that State’s GHG and zero emission vehicle (ZEV) programs under Section 209 of the Clean Air Act, and;
- (3) regulatory text to implement NHTSA’s statutory authority to set nationally applicable fuel economy standards to explicitly preempt California’s GHG and ZEV programs.

In 2019, Part One of the SAFE Rule (One National Program) became effective, which withdrew California’s waiver from EPA and finalized NHTSA’s regulatory text related to preemption of State regulations. In 2020, EPA and NHTSA announced Part Two of the SAFE Rule, which would establish amended fuel economy and CO₂ standards for passenger cars and light trucks of model years 2021-2026. These revised standards would increase in stringency by 1.5 percent per year from model year 2020 over model years 2021-2026.

3.9.2.2 State

Executive Order (EO) S-3-05

In 2005, Governor Schwarzenegger issued EO S-3-05, proclaiming that California is vulnerable to the impacts of climate change. The EO declares that increasing temperatures could reduce the Sierra Nevada snowpack, further exacerbate California’s air quality problems, and potentially cause a rise in sea levels. To address those concerns, the EO established GHG emission targets for the State and identified responsibilities for State agencies in meeting the targets. Specifically, statewide emissions are to be reduced to 2000 levels by 2010, 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32

In 2006, AB 32, the California Global Warming Solutions Act of 2006, was signed into law. AB 32 establishes regulations, reporting requirements, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that:

- “(a) the statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed.
- (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020.
- (c) The [CARB] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020.” [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

Executive Order B-30-15

In 2015, Governor Brown issued EO B-30-15 which established a California GHG reduction target of 40 percent below 1990 levels by 2030. This emission reduction target of 40 percent below 1990 levels by 2030 set the next interim step in the State’s continuing efforts to pursue the long-term target previously established under EO S-3-05 to reach the goal of reducing emissions 80 percent below 1990 levels by 2050. This is consistent with scientifically-established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32

In 2016, SB 32 was signed into law and serve to extend California’s GHG reduction programs beyond 2020. SB 32 amended existing regulations to authorize CARB to achieve a statewide GHG emission reduction of at

least 40 percent below 1990 levels by no later than December 31, 2030, codifying the 2030 target established by EO B-30-15.

Assembly Bill (AB) 1493 (Pavley)

AB 1493, enacted in 2002, requires the reduction of GHGs from automobiles and light-duty trucks to the maximum extent feasible and cost-effective. In 2004, CARB approved the “Pavley I” regulations that applied to new passenger vehicles beginning with model year 2009 through 2016. Pavley I was anticipated to reduce GHG emissions from regulated vehicles by 30 percent from 2002 levels by 2016. Pavley II was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III. The amendments, which took effect in 2012, apply to vehicles for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025.

Advanced Clean Cars Program

Also in 2012, CARB approved the Advanced Clean Cars program which sought to combine the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of regulatory standards for vehicle model years 2017 through 2025. These regulations strengthen the GHG standard for 2017 models and beyond, and would be achieved through existing and more efficient technologies. The program’s Zero Emissions Vehicle (ZEV) regulation would require battery, fuel cell, and/or plug-in hybrid electric vehicles to comprise up to 15 percent of California’s new vehicle sales by 2025. The program also included a clean fuels outlet regulation designed to support the development of zero-emission hydrogen fuel cell vehicles by requiring increased numbers of hydrogen fueling stations throughout the state. By 2025, when it was assumed the rules would be fully implemented, the statewide fleet of new cars and light trucks would emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions than the statewide fleet in 2016.

Senate Bill 100

In 2018, SB 100 increased California’s Renewable Energy Portfolio targets for utility companies to 52 percent renewables by 2027 and 60 percent renewables by 2030. It also established a new zero-carbon electricity mandate by 2040.

California Building Energy Efficiency Standards (Title 24, Part 6)

California Code of Regulations (CCR), Title 24, Part 6, is California’s Energy Efficiency Standards for Residential and Non-Residential Buildings. Title 24 Part 6 was established by California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California’s energy consumption and provide energy-efficiency standards for residential and nonresidential buildings. These standards are typically updated every three years as part of the State’s triennial code update schedule and have resulted in substantial gains in energy efficiency in new construction with each code update cycle. For example, the 2013 Title 24 standards that became effective in 2014 are 23.3 percent more efficient than the previous 2008 standards for residential construction and 21.8 percent more efficient for nonresidential construction. Similarly, the 2016 Title 24 standards that became effective in 2017 are 28 percent more efficient than the 2013 standards for residential construction and are approximately 5 percent more efficient for nonresidential construction.

The 2019 Title 24 Part 6 Building Energy Efficiency Standards were adopted by CEC on May 9, 2018, and took effect on January 1, 2020. The standards are designed to move the State closer to its zero net energy goals for new residential development. It does so by requiring all new residences to install enough renewable energy to offset all the site electricity needs of each residential unit. The Title 24 Building Energy Efficiency Standards are enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary in response to local

climatologic, geologic, or topographic conditions, provided that these standards are demonstrated to be cost effective and exceed the energy performance required by Title 24 Part 6.

California Green Building Standards (Title 24, Part 11)

In 2008, the California Building Standards Commission adopted Part 11 of CCR Title 24, titled the California Green Building Standards Code (CALGreen Code) which became effective in 2009 as a voluntary code. The 2019 CALGreen Code standards became effective on January 1, 2020. The CALGreen Code establishes mandatory measures for residential and non-residential building construction and encourages sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

Senate Bill 97

SB 97, enacted in 2007, amended the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. The legislation directed the California Office of Planning and Research to develop draft CEQA Guidelines “for the mitigation of GHG emissions or the effects of GHG emissions” and directed the California Natural Resources Agency to certify and adopt the State CEQA Guidelines. CEQA Guidelines Section 15183.5, Tiering and Streamlining the Analysis of GHG Emissions, was added as part of the CEQA Guideline amendments that became effective in 2010 and describes the criteria needed in a GHG reduction plan that would allow for the tiering and streamlining of CEQA analysis for development projects.

Senate Bill X7-7

SB x7-7 requires water suppliers to reduce urban per capita water consumption 20 percent from a baseline level by 2020. The production and treatment of water, as well as the treatment of wastewater, requires substantial amount of electricity, and thus there this a direct relationship between water and greenhouse gases.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of in landfills, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by 1995, and 50 percent by 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to State agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally-safe transformation and land disposal.

In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. AB 341 also established a statewide recycling goal of 75 percent; the 50 percent disposal reduction mandate still applies for cities and counties under AB 939, the Integrated Waste Management Act.

Climate Change Scoping Plan

In 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the State’s 2030 GHG emissions reduction target of 40 percent below 1990 levels and substantially advance toward our 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation. The 2017 Scoping Plan includes a wide variety of goals related to energy efficiency and renewable energy that are intended to help meet the State’s 2030 target.

Cap-and-Trade Program

The Cap-and-Trade program was developed to reduce GHG emissions from major emissions sources (covered entities) by setting a firm cap on statewide GHG emissions that is gradually reduced over time while employing market mechanisms to cost-effectively achieve the State’s emission-reduction goals. It sets a statewide limit on sources responsible for 85 percent of California’s GHG emissions, including electricity generators, large industrial facilities emitting a specified amount of annual emissions, and distributors of transportation, natural gas, and other fuels, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide the approximately 450 entities covered by the program with the flexibility to seek out and implement the lowest cost options to reduce emissions. All covered entities are required to demonstrate compliance with the cap-and-trade program by implementing GHG reduction activities on-site or through use of free or purchased allowances, or purchase of offsets.

3.9.2.3 Regional and Local

San Joaquin Valley Air Pollution Control District

In August 2008, the SJVAPCD adopted the Climate Change Action Plan (CCAP). The CCAP directed the SJVAPCD to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

In December 2009, the SJVAPCD adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead.¹⁵ The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA. Projects implementing BPS in accordance with SJVAPCD’s guidance would be determined to have a less than significant individual and cumulative impact on GHG emissions and would not require project specific quantification of GHG emissions.

City of Fresno Greenhouse Gas Reduction Plan

The City of Fresno’s GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. The City of Fresno updated its 2014 GHG Reduction Plan in the year 2020 (GHG Reduction Plan Update) to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. However, the GHG Reduction Plan Update has not yet been adopted.

¹⁵ SJVAPCD. Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. Website: <https://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf>. Accessed June 2021.

3.9.3 Impact Assessment

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact with Mitigation Incorporated. Reports entitled *Air Quality and Greenhouse Gas Impact Analysis* (Appendix F) were prepared by LSA. The report was prepared in order to evaluate whether GHG emissions generated by the development of the properties would cause significant impacts in our ability to achieve goals to reduce climate change. The report provides an in-depth discussion detailing the effects of climate change and commonly identified GHG emissions and sources of the emissions that form the Project’s environmental setting and establish its baseline conditions. The reports also provide detail of the framework under which GHG emissions are regulated and by which its impacts are assessed. The essential conclusion of the report is summarized in this analysis.

Short-Term Construction-Generated Emissions

Methodology utilized by LSA assumed the Project was to begin construction in July 2022 with full buildout completed in approximately 18 months. The Project was assumed to be completed in a single phase, and assumes the Project would utilize EPA Tier 2 construction equipment for consistency with CARB in-use off-road diesel-fueled fleet regulations. Total GHG emissions generated during all phases of construction are presented in Table 3-15 below:

Table 3-15. Construction Greenhouse Gas Emissions

Construction Greenhouse Gas Emissions	
Year	Annual Emissions (MTCO _{2e})
2022	227.3
2023	310.8
Total	538.1

Long-Term Operational Emissions

Operational or long-term emissions occur over the life of the Project. Sources of emissions may include motor vehicles, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential wood burning. First occupancy of the Project was assumed by LSA to occur by 2023. The Project’s operational emissions are listed below in Table 3-16. This table also provided a comparison of what greenhouse gas emissions would be under the maximum buildout of the existing designation.

Table 3-16. Operational Greenhouse Gas Emissions, Project and Existing Designation

Operational Greenhouse Gas Emissions, Project and Existing Designation (in MTCO _{2e} per Year)		
Source	Project	Existing Designation
Area	39.9	45.7
Energy	192.4	155.0
Mobile	816.5	842.7
Waste	12.1	24.3
Water	11.9	19.7
Total	1,072.7	1,087.3

The Project would result in a decrease of 14.6 metric tons of CO₂e emissions, compared to the existing land use designation. Therefore, the Project's greenhouse gas impact is less than significant.

Subsequently, as required by the Greenhouse Gas Reduction Plan, the Project is required to comply with all applicable General Plan policies for ministerial and discretionary actions. Regulatory Compliance Mitigation Measure GHG-1 would ensure the Project would not generate greenhouse gas emissions that may have a significant effect on the environment.

Mitigation Measure

GHG-1: Consistent with the City of Fresno's 2014 GHG Reduction Plan, the Project Applicant shall incorporate the following design features as part of the proposed project:

- Ensure that the street and pedestrian design complies with the complete streets concepts.
- Review project against Development Code for mandatory design features required for the project.
- Install alternative energy generation, such as solar. Review water conservation building and landscape design features for compliance with City water conservation standards.
- Maintain and enhance connections to regional bikeways and trail system.
- Complete the latest version of the Fresno Green Residential Checklist, meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Programs, or qualify for Build It Green's GreenPoint rating system for residential buildings.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. The SJVAPCD has adopted a CCAP, which includes suggested BPS for proposed residential development projects. However, the SVJAPCD's CCAP was adopted in 2009 and was also prepared based on the State's 2020 GHG targets, which are now superseded by State policies and the 2030 GHG targets. As such, absent any other local or regional Climate Action Plan, the proposed project was analyzed for consistency with the State GHG reduction goals. The following discussion evaluates the proposed project according to the goals of AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Executive Order B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32 (CARB 2017). SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by AB 32, Executive Order B-30-15 and codified by SB 32 and

AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would be required to comply with the latest Title 24 standards of the California Code of Regulations, established by the CEC, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest Title 24 standards of the California Code of Regulations, which includes a variety of different measures, including reduction of wastewater and water use. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Therefore, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in AB 32 and would be consistent with applicable plans and programs designed to reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. The impact would be less than significant.

3.10 Hazards and Hazardous Materials

Table 3-17. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.10.1 Environmental Setting and Baseline Conditions

3.10.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the SWRCB Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-

UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on May 10, 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.10.1.2 Airports

The Project is located approximately 2.25 miles west of Sierra Sky Park Airport. Although the Project is near the Sierra Sky Park Airport, it is not located within any identified airport protection zones within the Fresno County, Airport Land Use Compatibility Plan (ALUCP).

3.10.1.3 Emergency Response Plan

The City's Emergency Preparedness Officer is responsible for ensuring that Fresno's emergency response plans are up-to-date and implemented properly. The Emergency Preparedness Officer facilitates cooperation between City departments and other local, State and federal agencies, including Fresno County. The Fresno County Office of Emergency Services coordinates the development and maintenance of the Fresno County Operational Area Master Plan.

3.10.1.4 Sensitive Receptors

Sensitive receptors within the Project's vicinity consist of other single-family residential directly to the east of the Project site. No other identified concentrations of sensitive receptors, such as hospitals, nursing homes, or schools are within the Project's vicinity.

3.10.2 Regulatory Setting

3.10.2.1 Federal

Toxic Substances Control Act. Established in 1976 and amended on December 31, 2002, the Toxic Substances Control Act (TSCA) (15 United States Code [USC] Section 2601-2692) grants the EPA power to require proper reporting, record-keeping, and testing requirements related to chemical substances and/or mixtures. Specifically, the TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paints (LBP). The TSCA establishes the EPA's authority to require the notification of the use of chemicals, require testing, maintain a TSCA inventory, and require those importing chemicals under Sections 12(b) and 13 to comply with certification and/or other reporting requirements. This federal legislation also phased out the use of asbestos-containing materials in new building materials and sets requirements for the use, handling, and disposal of asbestos-containing materials. Disposal standards for lead-based paint wastes are also detailed in the TSCA.

The Emergency Planning and Community Right-To-Know Act. The Emergency Planning and Community Right-To-Know Act (also known as Title III of the Federal Superfund Amendments and Reauthorization Act, or "SARA III") (42 United States Code 11001 et seq.), was established by the EPA to allow for emergency planning at the State and local level regarding chemical emergencies, to provide notification of emergency release of chemicals, and to address community right-to-know regarding hazardous and toxic chemicals. SARA III was designed to increase community access and knowledge about chemical hazards as well as facilitate the creation and implementation of State/Native American tribe emergency response commissions, responsible for coordinating certain emergency response activities and for appointing local emergency planning committees (LEPCs). Section 1910.1200(c) Title 29 of the CFR defines "chemicals or hazardous materials" for the purposes of SARA III.

Federal Air Regulations, Part 77. The Federal Aviation Administration is charged with the review of construction activities that occur in the vicinity of airports. Its role in reviewing these activities is to ensure that new structures do not result in a hazard to navigation. The regulations in the Federal Air Regulations (14 CFR,

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Part 77) are designed to ensure that no obstructions in navigable air space are allowed to exist that would endanger the public. Proposed structures are also evaluated against Terminal En Route Procedures, which ensure that a structure does not adversely impact flight procedures. Tall structures, including buildings, construction cranes, and cell towers in the vicinity of an airport can be hazardous to the navigation of airplanes. Federal Air Regulations Part 77 identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. The extent of the off-airport coverage that needs to be evaluated for tall structure impacts can extend miles from an airport facility. In addition, Federal Air Regulations Part 77 establishes standards for determining whether objects constructed near airports will be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.

Federal Insecticide, Fungicide, and Rodenticide Act. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (seven United States Code 136 et seq.) was originally passed in 1947. It has been amended several times, most extensively in 1972 and in 1996 by the Food Quality Protection Act of 1996, and in 2012 by the Pesticide Registration Improvement Extension Act. The purpose of FIFRA is to establish federal jurisdiction over the distribution, sale, and use of pesticides. It also gives EPA the authority to study the effects of pesticide use. Other key provisions of FIFRA require pesticide applicators to pass a licensing examination for status as “qualified applicators,” create a review and registration process for new pesticide products, and ensure thorough and understandable labeling that includes instructions for use.

Hazardous Materials Transportation Act (HMTA) – Safe Transport of Hazardous Materials. The U.S. Department of Transportation regulates hazardous materials transportation between states under Title 49, Chapter 1, Part 100-185 of the Code of Federal Regulations. Within California, Caltrans and the California Highway Patrol enforce federal law. Together, these agencies determine driver training requirements, load labeling procedures, and specifications for container types to be used.

Federal Emergency Management Agency (FEMA). With respect to emergency planning, FEMA is responsible for ensuring the establishment and development of policies and programs for emergency management at the federal, State, and local levels. Enforcement of these laws and regulations is delegated to State and local environmental regulatory agencies.

Resource Conservation and Recovery Act. The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the origination to their final disposal in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities. The 1984 RCRA amendments provide the framework for a regulatory program designed to prevent releases from Underground Storage Tanks (USTs). The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards.

Comprehensive Environmental Response, Compensation and Liability Act. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The act was intended to be comprehensive in encompassing both the prevention of, and response to uncontrolled hazardous substances releases. The act deals with environmental response, providing mechanisms for reacting to emergencies and chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for, and respond to, failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

3.10.2.2 State

California Health and Safety Code. The California Environmental Protection Agency has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Sections 25531, et seq., incorporate the requirement of Superfund Amendments and Reauthorization Act and the Clean Air Act as they pertain to hazardous materials. Health and Safety Code Section 25534 directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP). The RMP must be submitted to the appropriate local authorities, the designated local administering agency, and the EPA for review and approval.

San Joaquin Valley Air Pollution Control District. The San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) has regulations that require compliance with the asbestos demolition and renovation requirements developed by the United States Environmental Protection Agency in the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation, 40 CFR, Part 61, Subpart M. (San Joaquin Valley Pollution Control District Asbestos Bulletin, 2012).

3.10.2.3 Local

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the city. The following objectives and policies related to hazards are presented in the General Plan:

- **Policy PU-3-d: Review Development Applications.** Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.
- **Policy PU-3-f: Adequate Infrastructure.** Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.
- **Policy NS-4-h: Household Collection.** Continue to support and assist with Fresno County’s special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.
- **Objective NS-6:** Foster an efficient and coordinated response to emergencies and natural disasters.
- **Policy NS-6-d: Evacuation Planning.** Maintain an emergency evacuation plan in consultation with the Police and Fire Departments and other emergency service providers, which shows potential evacuation routes and a list of emergency shelters to be used in case of catastrophic emergencies.

City of Fresno Municipal Code. Chapter 10, Article 14 of the City of Fresno Municipal Code pertains to the recovery of expenses associated with hazardous spills. Specifically, this section states that “Any person causing a release or threatened release which results in an emergency action shall be liable to the City of Fresno for the recoverable costs resulting from the emergency action.”

City of Fresno Emergency Operation Plan. The California Emergency Services Act requires cities to prepare and maintain an emergency plan for emergencies that are natural or caused by man. The City’s adopted Emergency Operations Plan (EOP) plans for emergencies including natural hazards. The EOP does not designate any evacuation routes within the Planning Area.

County of Fresno Multi-Jurisdictional Local Hazard Mitigation Plan. The purpose of a Local Hazard Mitigation Plan is to reduce or eliminate long-term risk to human life and property resulting from hazards. A local hazard mitigation plan recognizes risks before they occur, as well as identifies resources, information, and strategies for emergency response. Fresno County, with participation from 17 jurisdictions, is the lead agency on the Multi-Jurisdictional Local Hazard Mitigation Plan (MHMP). In 2018, the Fresno County Board of Supervisors

adopted the MHMP, which includes a Fresno Annex listing information that pertains to the City in the areas of health, infrastructure, housing, government, environment, and land use.

Fresno County Airport Land Use Commission. The Airport Land Use Commission (ALUC) is in existence to protect the public health, safety and welfare by ensuring that orderly development, and prevention of excessive noise and safety hazards around public use airports is followed in accordance to state and local laws. ALUCs establish the policies on land uses around the airport, ensuring they are compatible with airport operations. This is done on an advisory basis. ALUCs also evaluate the compatibility of proposed local agency land use policy actions with the relevant provisions within the associated Airport Land Use Compatibility Plan (ALUCP). They review individual development projects to ensure they are within the noise and safety standards, in accordance with state laws and the ALUCP, within the review area of influence of the airport the project is located in.

3.10.3 Impact Assessment

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impacts. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on May 10, 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. Small quantities of hazardous materials may be used in conjunction with the proposed residential use, however, these materials would be limited in type and quantity and would not be different from household chemicals and solvents already being used in households throughout the vicinity and the City. Therefore, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. There would be no impact.

b) 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?

No Impacts. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on May 10, 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. The Project would utilize typical household materials such as solvents, paints, and chemicals used for cleaning, maintenance and landscaping and would be required to be handled in compliance with federal, state, and local laws. Therefore, the Project would not 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. There would be no impact.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The Project site is not located within one-quarter mile of an existing school, therefore there will be no impact.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on May 10, 2021, determined that there are no known active hazardous waste generators or known hazardous material spill sites within the Project site. There will be no impact.

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?

No Impact. The Project site is not 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. The Project site is located outside of all of the identified airport protection zones within the Fresno County, Airport Land Use Compatibility Plan (ALUCP), therefore there will be no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The Project involves a plan amendment, a rezone, and the construction and development of a residential subdivision. The residential subdivision would provide two points of access off N. Thiele Avenue. The Project would also provide an emergency fire access easement located across the north portion of the property designated as Outlot “A” on the proposed tentative subdivision map. Construction traffic associated with the Project would be minimal and temporary. Operational traffic will consist of vehicle trips associated with residential development. Temporary road closures, detours, or lane diversions may be necessary for connection of utilities and development of residential streets during construction. Disturbances to traffic patterns, such as a potential lane diversion will be temporary and minimal in nature, as there will be alternate routes available. Therefore, Project-related impacts to emergency evacuation routes or emergency response routes on local roadways would be considered less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The Project site is located in the northwestern portion of the City of Fresno, approximately 0.4 miles northeast of State Route 99. The Project is in an urbanized setting and would add a new subdivision to an area that already has housing in the vicinity. The Project site would be served by the City of Fresno for its fire protection needs and is not located in an area on or near a State Responsibility Area (SRA)¹⁶. In addition, the Project site is in an urbanized setting that is not on or near land classified as a very high fire hazard severity zone¹⁷. The nearest very high fire hazard severity zone is located approximately 20 miles northeast near Millerton Lake. Although the Project site is not located in a very high fire hazard severity zone or an SRA, the City of Fresno Fire Department has included conditions of approval for the proposed project which will require the designated trail along the bluff edge and access paths to incorporate certain design features to accommodate fire access by the brush and patrol firefighting apparatus to protect homes. The impact would be less than significant.

¹⁶ ArcGIS. State Responsibility Zones. Website: <https://www.arcgis.com/apps/mapviewer/index.html?layers=5ac1dae3cb2544629a845d9a19e83991>. Accessed 6/7/21.

¹⁷ ArcGIS. Is Your Home in a Fire Hazard Severity Zone? Website: <https://www.arcgis.com/apps/Styler/index.html?appid=5e96315793d445419b6c96f89ce5d153>. Accessed 6/7/21.

3.11 Hydrology and Water Quality

Table 3-18. Hydrology and Water Quality Impacts

Hydrology and Water Quality Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.1 Environmental Setting and Baseline Conditions

The City of Fresno overlies the Kings Subbasin of the San Joaquin Valley Groundwater Basin (SJV Basin). The Kings Subbasin underlies Fresno, Kings, and Tulare Counties and has a surface area of 976,000 acres (1,530 square miles). The Kings Subbasin has not been adjudicated. The Department of Water Resources classified the Kings Basin as being in a state of critical overdraft in its Bulletin 118-80.¹⁸ The northern boundary of the Project site is adjacent to the San Joaquin River and river bluff.

¹⁸ 1980 – Department of Water Resources Bulletin 118-80, Groundwater Basins in California. Website: [1980 - Department of Water Resources Bulletin 118-80, Groundwater Basins in California \(csumb.edu\)](http://www.csumb.edu/~waterresources/Bulletin118-80_Groundwater_Basins_in_California). Accessed 6/2/2021

The SJV Basin comprises the southern portion of the Great Central Valley of California and is bounded to the north by the Sacramento-San Joaquin Delta and Sacramento Valley, to the east by the Sierra Nevadas, to the south by the San Emigdio and Tehachapi Mountains, and to the west by the Coast Ranges.

The Kings Subbasin, located within the southern half of the SJV Basin, is bounded to the north by the San Joaquin River, to the east by the alluvium-granite rock interface of the Sierra Nevada foothills, and to the west by the Delta-Mendota and Westside Subbasins. The Kings Subbasin is bounded to the south by the northern boundary of the Empire West Side Irrigation District, the southern fork of the Kings River, the southern boundary of the Laguna Irrigation District, the northern boundary of the Kings County Water District, and the western boundary of Stone Corral Irrigation District.

3.11.2 Regulatory Settings

3.11.2.1 Federal

Clean Water Act. The Clean Water Act (CWA) established a basic structure for regulating discharges of pollutants into Waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. The “Clean Water Act” became the Act’s common name with amendments in 1977.

Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs and established water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a National Pollutant Discharge Elimination System (NPDES) permit was obtained. Point sources are discrete conveyances such as pipes or manmade ditches. While residential structures that are either connected to a municipal system or otherwise do not discharge into surface waters are not required to obtain a NPDES permit, industrial, municipal, and similar facilities must obtain permits to discharge directly into surface waters. In California, the NPDES program is administered through the nine Regional Water Quality Control Boards (RWQCB).

Non-point sources are similarly regulated through a General Construction Activity Stormwater NPDES permit. Construction activities subject to this permit include clearing, grading, excavating, and general disturbances to the ground. Stormwater Pollution Prevention Plans (SWPPPs) are required for the issuance of a General Construction Activity Stormwater NPDES permit and typically include the implementation of structural and non-structural Best Management Practices (BMPs) to reduce impacts related to surface water quality.

National Pollutant Discharge Elimination System (NPDES) Permit. Section 402 of the CWA established the NPDES to control water pollution by regulating point sources that discharge pollutants into Waters of the United States. In the State of California, the EPA has authorized the SWRCB as the permitting authority to implement the NPDES program. The SWRCB issues two-baseline general permits; one for industrial operations, the other for construction activities (General Construction Permit). Additionally, the NPDES program includes the regulation of stormwater discharges from cities, counties, and other municipalities under Order No. R8-2009-0030 (waste discharge requirements for stormwater) and updated under Order No. 5- 01-048 for the Central Valley Region.

Under the General Construction Permit, stormwater discharges from construction sites with a disturbed area of one or more acres are required to obtain either individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each Applicant under the Construction General Permit is required to both prepare a SWPPP prior to the commencement of grading activities and to ensure implementation of the SWPPP during construction activities. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges

and authorized non-stormwater discharges from the construction site during construction activities. BMPs may include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. The SWPPP would also address BMPs developed specifically to reduce pollutants in stormwater discharges following the completion of construction activities.

Safe Drinking Water Act (Federal). The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. This SDWA focuses on all waters either designed or potentially designed for drinking water use, whether from surface water or groundwater sources. The SDWA and subsequent amendments authorized the EPA to establish health-based standards, or maximum contaminant levels (MCLs), for drinking water to protect public health against both natural and anthropogenic contaminants. All owners or operators of public water systems are required to comply with these primary (health-related) standards. State governments, which can be approved to implement these primary standards for the EPA, also encourage attainment of secondary (nuisance-related) standards. At the federal level, the EPA administers the SDWA and establishes MCLs for bacteriological, organic, inorganic, and radiological constituents (United States Code Title 42, and Code of Federal Regulations Title 40). At the state level, California has adopted its own SDWA, which incorporates the federal SDWA standards with some other requirements specific only to California (California Health and Safety Code, Section 116350 et seq.)

The 1996 SDWA amendments established source water assessment programs pertaining to untreated water from rivers, lakes, streams, and groundwater aquifers used for drinking water supply. According to these amendments, the EPA must consider a detailed risk and cost assessment, as well as best available peer-reviewed science, when developing standards for drinking water. These programs are the foundation of protecting drinking water resources from contamination and avoiding costly treatment to remove pollutants. In California, the Drinking Water Source Assessment and Protection (DWSAP) program fulfills these federal mandates. The Division of Drinking Water of the State Water Resources Control Board is the primary agency for developing and implementing the DWSAP program, and is responsible for performing the assessments of existing groundwater sources.

3.11.2.2 State

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act of 1969, which became Division 7 of the California Water Code, authorized the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the CWA Section 303, which states that water quality standards must be established for certain waters through the adoption of water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans within the regions, identifying water quality objectives, and instituting waste discharge requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and wildlife. The Porter-Cologne Act was later amended to provide the authority delegated from the EPA to issue NPDES permits regulating discharges to Waters of the United States.

Sustainable Groundwater Management Act of 2014. On September 16, 2014, a three-bill legislative package was signed into law, composed of AB 1739, SB 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act (SGMA). The Governor's signing message states "a central feature of these bills is the recognition that groundwater management in California is best accomplished locally". The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with the potential for state intervention if necessary, to protect the resource. The act requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally based management plans. The groundwater basin that serves Fresno has been designated by the Department of Water Resources as high- priority and subject to a condition of critical overdraft.

North Kings Groundwater Sustainability Agency. The North Kings Groundwater Sustainability Agency (GSA) is a Joint Powers Authority formed in December 2016 through adoption of a Joint Powers Agreement by the following public agencies: Fresno Irrigation District, the County of Fresno, the City of Fresno, the City of Clovis, the City of Kerman, Biola Community Services District, Garfield Water District, and International Water District. Following adoption, these founding members approved membership of Bakman Water Company and the Fresno Metropolitan Flood Control District through separate binding agreements. The North Kings GSA's jurisdiction includes a portion of the Kings Subbasin that includes the service areas of member agencies consistent with requirements of the Sustainable Groundwater Management Act of 2014.

3.11.2.3 Local

City of Fresno Municipal Code. Chapter 6, Municipal Services and Utilities, Article 7, Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code establishes provisions regarding stormwater discharges. The purpose of the City's Urban Storm Water Quality Management and Discharge Control Ordinance is to ensure the health, safety, and general welfare of citizens and protect the water quality of watercourses and water bodies in a manner pursuant to and consistent with the CWA (33 U.S.C. Section 1251, et seq.) by reducing pollutants in urban stormwater discharges to the maximum extent practicable and by effectively prohibiting non- stormwater discharges to the storm drain system.

Chapter 11, Building Permits and Regulations, Article 6 Fresno Flood Plain Ordinance establish methods of reducing flood losses by: restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards or flood heights or velocities; requiring that uses vulnerable to floods be protected against flood damage at the time of initial construction; controlling filling, grading, dredging, and other development which may increase flood damage; preventing or regulating the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas; and controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the City. The following objectives and policies related to hydrology and water quality are presented in various elements of the approved General Plan:

- **Policy POSS-6-b: Effects of Stormwater Discharge.** Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.
 - Avoid discharge of runoff from urban uses to the San Joaquin River or other riparian corridors.
 - Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas only upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.
 - Periodically monitor water quality and sediments near drainage outfalls to riparian areas. Institute remedial measures promptly if unacceptable levels of contaminant(s) occur.
- **Policy PU-7-a: Reduce Wastewater.** Identify and consider implementing water conservation standards and other programs and policies, as determined appropriate, to reduce wastewater flows.
- **Policy PU-8-c: Conditions of Approval.** Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.
- **Policy PU-8-g: Review Project Impact on Supply.** Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.
- **Objective RC-6.** Ensure that Fresno has a reliable, long-range source of drinkable water.

- **Policy RC-6-c: Land Use and Development Compliance.** Ensure that land use and development projects adhere to the objective of the Fresno Metropolitan Water Resources Management Plan to provide sustainable and reliable water supplies to meet the demand of existing and future customers through 2025.
- **Policy RC-6-h: Conditions of Approval.** Include in the Development Code standards for imposing conditions of approval for development projects to ensure long-term maintenance of adequate clean water resources. Require findings that adequate water supply must exist prior to any discretionary project approval for residential and commercial development requiring annexation, as required by law.
- **Objective RC-7.** Promote water conservation through standards, incentives and capital investments.
- **Policy RC-7-b: Water Pricing and Metering.** Develop a tiered water cost structure for both residential and commercial users that will properly price water based on its true cost; require all new development to be metered for water use; and charge all customers the true, full cost of their water supply, including costs of acquisition, initial treatment, conveyance, wastewater treatment, operations, maintenance, and remediation.
- **Policy RC-7-c: Best Practices for Conservation.** Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.
- **Policy RC-7-d: Update Standards for New Development.** Continue to refine water saving and conservation standards for new development.
- **Policy RC-7-f: Implementation and Update Conservation Program.** Continue to implement the City of Fresno Water Conservation Program, as may be updated, and periodically update restrictions on water uses, such as lawn and landscape watering and the filling of fountains and swimming pools, and penalties for violations. Evaluate the feasibility of a 2035 conservation target of 190 gpcd in the next comprehensive update of the City of Fresno Water Conservation Program.
- **Policy RC-7-h: Landscape Water Conservation Standards.** Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations.
 - Evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.
 - Facilitate implementation of the State’s Water Efficient Landscape Ordinance by developing alternative compliance measures that are easy to understand and observe.
- **Objective NS-3.** Minimize the risks to property, life, and the environment due to flooding and stormwater runoff hazards.
- **Policy NS-3-a: Stormwater Drainage and Flood Control Master Plan.** Support the full implementation of the FMFCD Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities. Work with the FMFCD to make sure that its Storm Drainage and Flood Control Master Plan is consistent with the General Plan.
- **Policy NS-3-b: Curb and Gutter Installation.** Coordinate with Fresno Metropolitan Flood Control District (FMFCD) to install curbing, gutters, and other drainage facilities with priority to existing neighborhoods with the greatest deficiencies and consistent with the Storm Drainage and Flood Control Master Plan.
- **Policy NS-3-e: Pollutants.** Work with FMFCD to prevent and reduce the existence of urban stormwater pollutants pursuant to the requirements of the National Pollution Discharge Elimination Systems Act.
- **Policy NS-3-i: New Development Must Mitigate Impact.** Require new development to not significantly impact the existing storm drainage and flood control system by imposing conditions of approval as project mitigation, as authorized by law. As part of this process, closely coordinate and consult with the FMFCD to identify appropriate conditions that will result in mitigation acceptable and preferred by FMFCD for each project.

3.11.3 Impact Assessment

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. Surface runoff from the Project will be accommodated by a ponding facility that will be designated as Outlot “C” which will be dedicated in fee to the City of Fresno. In compliance with State regulations, all development within the Project site would be required to comply with State regulations adopted to reduce groundwater degradation. The RWQCB requires the preparation of a SWPPP for projects that exceed specified size limits. The Project would be required to obtain RWQCB approval of its SWPPP prior to construction. Therefore, the Project would have a less than significant impact through implementation of planned Project design features (detention basins), compliance with the requirements of the FMFCD, and through compliance with adopted SWPPP regulations. The impact would be less than significant.

b) 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?

Less than Significant Impact. The proposed 89-lot subdivision is within the City’s water service area. According to the 2020 Urban Water Management Plan (UWMP), the existing planned land uses would consume approximately 20.84 acre-feet per year (AFY). The Project would increase this amount by 17.28 AFY. To determine whether the increase is significant, a comparison to the supplies and demands of the General Plan land uses, and whether the increase would result in a deficit or exacerbate an existing or planned deficit.

Water Demand of Existing Planned Land Uses

General Plan Land Use	Acreage	AF per Acre	Annual AF
Open Space, Regional Park	14	0.80	11.20
Open Space, Multi-Use	1.3	0.80	1.04
Public Facility, PG&E Substation	2.28	3.77	8.60
Total	17.58		20.84

Comparison of Water Demand of Existing and Proposed Land Uses

General Plan Land Use	Acreage	AF per Acre	Annual AF
Medium Density Residential	17.58	2.17	38.12
Existing Land Uses	17.58		20.84
Increase / (Decrease) in Consumption			17.28

Review of Project Water Demand Impacts through 2045

	2025	2030	2035	2040	2045
Planned Supply	329,030	341,140	346,610	352,000	357,330
Planned Demand	199,204	212,756	222,310	231,876	241,447
plus Project	17	17	17	17	17
Total Demand	199,221	212,773	222,327	231,893	241,464
Surplus/(Deficit)	129,809	128,367	124,283	120,107	115,866
Significant Impact?	No	No	No	No	No

Source: 2020 UWMP Table 7-1; Provost & Pritchard Consulting Group

It is expected that the City would encounter dry years and, in worst case, multiple dry years. Below is an analysis of the City’s water supply, and its surpluses, with or without the Project. As depicted below, the Project would not cause a water supply deficit during multiple dry years.

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Review of Project Water Demand Impacts during Drought Conditions through 2045

		2025	2030	2035	2040	2045
First Year	Existing	74,521	66,509	62,425	58,249	54,008
	Existing plus Project	74,504	66,492	62,408	58,232	53,991
Second Year	Existing	75,422	67,410	63,326	59,150	54,909
	Existing plus Project	75,405	67,393	63,309	59,133	54,892
Third Year	Existing	27,301	29,471	30,842	32,215	33,589
	Existing plus Project	27,284	29,454	30,825	32,198	33,572
Fourth Year	Existing	27,301	29,471	30,842	32,215	33,589
	Existing plus Project	27,284	29,454	30,825	32,198	33,572
Fifth Year	Existing	115,636	107,624	103,540	99,364	95,123
	Existing plus Project	115,619	107,607	103,523	99,347	95,106
Significant Impact?		No	No	No	No	No

Source: 2020 UWMP Table 7-3; Provost & Pritchard Consulting Group

The Project must comply with the requirements of the Department of Public Works and the Department of Public Utilities (DPU) for the construction of water, wastewater, and storm water drainage infrastructure. In addition, the developer will be responsible for the payment of development impact fees to off-set potential impacts to regional facilities. The FMFCD has developed an urban drainage design concept that collects, drains, and retains surface water runoff for intentional groundwater recharge in ponding basins dispersed throughout the city. The Project proposes one ponding facility, designated as Outlot “C” within the Project site. Therefore, the City has sufficient water supplies available to serve the Project and its existing commitments during normal, dry, and multiple dry years.

The City’s water supply derives from groundwater, imported water, surface water sources and limited amounts of recycled water. The City anticipates increasing its surface water treatment capacity from 175,600 AFY in 2015 to 198,500 AFY in 2035. The Southeast Surface Water Treatment Facility was completed in 2017 to reduce dependency on groundwater and alleviate groundwater depletion. The City’s Recycled Water Master Plan (2010) indicates the City is planning to increase and/or provide tertiary treatment of wastewater for landscape and irrigation purposes in new growth areas and existing landscaped areas throughout the City’s service area. According to the City’s 2015 UWMP, the City anticipates reducing the usage of groundwater supplies from a ratio of 1:3 in 2015 to a ratio of 2:7 in 2035, representing a decline from 30.11% groundwater usage to 27.55% groundwater usage.¹⁹ Therefore, according to the City’s UWMP the Project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project would impede sustainable groundwater management of the basin. The impact would be less than significant.

c) 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:

c-i) result in substantial erosion or siltation on- or off-site;

Less than Significant Impact. Although the San Joaquin River is adjacent to the Project site, the Project site does not contain any waterways and therefore implementation of the Project would not alter the course of a stream or river. However, the Project would require grading or soil exposure during construction. If not controlled, the transport of these materials via local stormwater systems into local waterways could temporarily increase sediment concentrations. To minimize this impact, the proposed Project would be required to comply with all of the requirements of the State GCP and submittal of a SWPPP to the SWRCB prior to start of construction activities. Mandatory compliance with State regulations would ensure that impacts from erosion and siltation would be less than significant.

¹⁹ City of Fresno. 2015 Urban Water Management Plan. Computed using Table 4-15, Water Supplies. Accessed June 7, 2021.

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c-ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less than Significant Impact. Although the Project site would increase the rate of surface runoff, runoff will be directed to an on-site ponding basin adequately sized to handle the increase rate and amount of surface runoff. The impact would be less than significant.

c-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

Less than Significant Impact. The Project site would alter the existing drainage pattern, but the Project site proposes a drainage basin annotated as Outlot “C” on the tentative map. The requirement to construct curb and gutters to direct drainage to Outlot “C” will ensure impacts to be less than significant.

c-iv) impede or redirect flood flows?

No Impact. The Project site is not located in a flood plain, therefore it would not impede or redirect flood flows. There would be no impact.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

Less than Significant Impact. The Project is directly adjacent to a flood zone, but it is not located in a flood hazard, tsunami, or seiche zone therefore there would be no risk release of pollutants. There would be a less than significant impact.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. Applicable water quality control plans for the City of Fresno are included within the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. The City is currently in compliance with all facets of the water quality control plan.

The City is a member of the North Kings Groundwater Sustainability Agency (GSA). In accordance with the Sustainable Groundwater Management Act (SGMA) GSAs, located in areas in critical overdraft are required to adopt Groundwater Sustainability Plans by 2020. The GSA has adopted its plan on November 21, 2019. The City of Fresno has several projects in the Groundwater Sustainability Plan, as follows:

Table 3-19. City of Fresno Groundwater Projects

City of Fresno Groundwater Projects			
Project	Description	Benefit	Milestone Year
Residential Water Meter Retrofit Project	Residential meter installation contracts commenced in 2010 and run through the end of 2012. Per capita water consumption from 2007 through 2011 averaged 277 gpcd. Per capita consumption after meters were installed, excluding the drought period of 2012-2016, averages 201 gpcd (2017 & 2018). The population at the end of 2011 was 513,358. Applying the per capita water consumption values from before and after meter installation yields a 43,600 AF reduction for the base 2011 population.	43,600 AF/yr	2015
T-3 Surface Water Treatment Facility	construction of a 3 MG water storage tank and 4-MGD surface water treatment facility (with possible future expansion to 8-MGD). The project will include, engineering & design, construction of tank,	2,210 AF/yr	2015

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City of Fresno Groundwater Projects			
Project	Description	Benefit	Milestone Year
	booster pumps, operations and treatment buildings, and associated site improvements.		
Southwest Reclamation Facility and Distribution System	This project includes the design and construction of an initial 5-MGD tertiary treatment facility and transmission and distribution system. The reclaimed water produced and distributed in the southwest region will provide a direct potable water offset, thus reducing the reliance on and use of groundwater supplies.	5,140 AF/yr	2020
Nielsen Recharge Facility	expand the City's groundwater recharge program and includes land acquisition, development of new recharge basins, structures and conveyance systems such as pipelines, canal turnouts, metering systems, and interties. The project goal is to optimize groundwater recharge efforts so as to balance groundwater extractions as laid out in the City's 2014 Metropolitan Water Resources Plan.	3,500 AF/yr	2020
Southeast Surface Water Treatment Facility	Design, construction, start-up, and commissioning of the new Southeast Surface Water Treatment Facility (SESWTF) and associated large diameter transmission mains. New facility is required to treat surface water diverted from the Kings River through canal and raw water pipeline system. Historically, the City has largely relied on groundwater to meet municipal water demands. The SESWTF will utilize surface water supplies and permit the balanced use of both groundwater and surface water, thus greatly reducing groundwater extractions.	82,240 AF/yr	2020
Northeast Surface Water Treatment Facility Expansion	The NESWTF Expansion Project is part of the City's near-term program to attain and maintain the sustainable use of water resources. This project is for the 30-MGD expansion of the existing surface water treatment facility for a total capability of 60-MGD. To enable water from the expansion to reach further into the City large diameter transmission mains will also be constructed. This project will meet future growth demands and ensure groundwater utilization attains and remains at safe-yield levels.	30,840 AF/yr	2025
Southeast Reclamation Facility and Distribution System	As part of the City's long-term goal to utilize resources sustainably the development of a recycled water program will be key. This project includes design and construction of an initial 8-MGD tertiary treatment facility with transmission and distribution mains. The reclaimed water produced and distributed in the southeast region will provide a direct potable	8,227 AF/yr	2030

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City of Fresno Groundwater Projects			
Project	Description	Benefit	Milestone Year
	water offset, thus reducing the reliance on and use of groundwater supplies.		

A project would obstruct implementation of a Sustainable Groundwater Management Plan if it prevented the development of identified projects to sustainably maintain groundwater. As the proposed Project does not seek to develop on property identified for these groundwater management projects, the Project will therefore have a less than significant impact.



Figure 3-2. FEMA Flood Map

3.12 Land Use and Planning

Table 3-20. Land Use and Planning Impacts

Land Use and Planning Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.12.1 Environmental Setting and Baseline Conditions

The Project site is currently vacant and undeveloped. The Project site is surrounded by a PG&E substation to the west, a residential subdivision to the east, the San Joaquin River to the north, and an equestrian park to the south. The Project site abuts North Thiele Avenue.

Table 3-21. Existing Land Use, General Plan, and Zoning

Direction	Existing Land Use	General Plan	Zoning
North	San Joaquin River	Open Space, Multi-Use	Unzoned (San Joaquin River)
South	Equestrian Park	Open Space, Regional Park	PR/BL/UGM (Parks and Recreation/Bluff Protection/Urban Growth Management)
East	Single-Family Residential	Medium-Low Density Residential	RS-4/BL/UGM (Residential Single-Family, Medium Low Density/Bluff Protection/Urban Growth Management)
West	PG&E Substation	Public Facility – PG&E Substation	PI/BL/UGM (Public and Institutional/Bluff Protection/Urban Growth Management)

3.12.2 Regulatory Setting

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the City. The following objective and policies related to land use and planning are presented in the General Plan:

- **Policy UF-1-f. Complete Neighborhoods, Densities, and Development Standards.** Use Complete Neighborhood design concepts and development standards to achieve the development of Complete Neighborhoods and the residential density targets of the General Plan.
- **Policy UF-14-a. Design Guidelines for Walkability.** Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.
- **Policy UF-14-b. Local Street Connectivity.** Design local roadways to connect throughout neighborhoods and large private developments with adjacent major roadways and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

- **Policy LU-5-c. Medium Density Residential Uses.** Promote medium density residential uses to maximize efficient use of residential property through a wide range of densities.
- **Policy LU-5-g. Scale and Character of New Development.** Allow new development in or adjacent to established neighborhoods that is compatible in scale and character with the surrounding area by promoting a transition in scale and architectural character between new buildings and established neighborhoods, as well as integrating pedestrian circulation and vehicular routes.
- **Policy LU-11-c. General Plan Consistency.** Pursue coordinated planning and development project reviews with relevant federal, State, and local public agencies to ensure consistency with this General Plan.

3.12.3 Impact Assessment

a) Would the project physically divide an established community?

No Impact. The Project would not physically divide an established community. The Project would develop a new subdivision an approximately 17 acres of undeveloped, vacant land in northwest Fresno. The Project would be developed adjacent to an existing subdivision to the east. The site is bordered by vacant land to the south and west, with a PG&E substation to the northwest. The northern portion of the site is bordered by the San Joaquin River, of which a public-use trail will be constructed along the bluff edge. No housing would be destroyed in order for the Project to be completed. The Project does not propose to vacate or abandon existing rights-of-way. Therefore, there would be no impact.

b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The Project would develop a subdivision consistent with the medium density residential land use designation. Potential conflicts between the Project and the General Plan and other regional plans and documents adopted for the purpose of avoiding or mitigating an environmental effect could result in a potentially significant impact with regard to land use and planning. Consistency with applicable General Plan Policies is provided in [Table 3-22](#).

Table 3-22. Project Consistency with Applicable General Plan Policies

Policy	Policy Short Name	Consistency Discussion
UF-1-a	Diverse Neighborhoods	Consistent with this General Plan policy, the Project proposes to provide a diverse urban/suburban neighborhood density type.
UF-1-f	Complete Neighborhoods, Densities, and Development Standards	Consistent with this General Plan policy, the Project proposes to provide complete neighborhood design concepts that would include a bicycle and pedestrian path consistent with development standards and incorporate blending of densities within the subdivision design.
UF-14-a	Design Guidelines for Walkability	Consistent with this General Plan policy, the Project proposes to develop a bicycle and pedestrian path to provide for a walkable and pedestrian-scaled environment with a network of streets that offer connections to the paths for pedestrians and bicyclists, as well as providing access to transit stops and roadways.
UF-14-b	Local Street Connectivity	Consistent with this General Plan policy, the Project proposes local roadways that provide interior connections throughout the subdivision to adjacent major roadways and pathways both existing and proposed by the Project. Access for pedestrians and bicycles is provided to adjoining uses that provide services and allow for shopping, as well as connections to the greater community area
LU-11-c	General Plan Consistency	Consistent with this General Plan policy, the Project has included coordinated planning and development project review by with

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Policy	Policy Short Name	Consistency Discussion
		relevant federal, State, and local public agencies to ensure consistency with the General Plan.
LU-5-c	Medium Density Residential Use	Consistent with this General Plan policy, the Project proposes a plan amendment from its current use to Medium Density Residential.
LU-5-g	Scale and Character of New Development	Consistent with this General Plan policy, the Project proposes an 89-lot residential subdivision surrounded by existing neighborhoods. The Project proposes to integrate pedestrian circulation by providing a trail along the northern boundary of the property south of the adjacent San Joaquin River.

The Project is also consistent with the following objective and policies of the San Joaquin River Parkway Master Plan:

- **Public Access and Recreation Goal:** Encourage trail corridors of sufficient width (varying with terrain, vegetation, and land) to preserve a scenic environment for users and to minimize impacts of trail use on wildlife and their habitats and on adjacent land uses.
 - **Policy ACCESS.2** Minimize potential impacts to sensitive natural resources by grouping facilities and intensive uses, or siting facilities and intensive uses in areas that are already disturbed or developed, where feasible.

The Project is consistent with this goal and policy by proposing a new residential subdivision adjacent to existing residential subdivisions and therefore minimizes potential impacts to sensitive natural resources by grouping similar and intensive uses together.

As described, the Project would be consistent with applicable General Plan policies and would not conflict with any applicable land use plan for either the City or the County, nor any specific plan, policy, or City regulations adopted for the purpose of avoiding or mitigating environmental effects and will have a less than significant impact.

3.13 Mineral Resources

Table 3-16. Mineral Resources Impacts

Mineral Resources Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.13.1 Environmental Setting and Baseline Conditions

The Project is located in central Fresno County, in the southern section of California’s Great Valley Geomorphic Province, or Central Valley. Historically, Fresno County has been a leading producer of a variety of minerals including aggregate, fossil fuels, metals, and other materials used in construction or in industrial processes. The nearest aggregate mining facility is approximately nine miles northeast of the Project site, located at 11599 North Friant Road. Currently, aggregate and petroleum are the County’s most significant mineral resources.²⁰

3.13.2 Regulatory Settings

3.13.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with cultural resources that are applicable to the Project.

3.13.2.2 State

Surface Mining and Reclamation Act. In 1975, the California Legislature enacted the Surface Mining and Reclamation Act, which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- MRZ-1: An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: An area containing mineral deposits, the significance of which cannot be evaluated.
- MRZ-4: An area where available information is inadequate for assignment to any other MRZ zone.

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or

²⁰ County of Fresno. General Plan Policy Document, Website: [showdocument \(fresno.ca.us\)](http://showdocument.fresno.ca.us). Accessed June 2, 2021

indicated resources are present. MRZ-2 areas are designated by the State of California Mining and Geology Board as being “regionally significant.” Such designations require that a Lead Agency’s land use decisions involving designated areas are to be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency’s jurisdiction.

3.13.2.3 Local

City of Fresno General Plan. The General Plan contains a set of policies and programs that form a blueprint for the physical development of the city. The following goals and policies related to mineral resources in the General Plan:

- **Objective RC-10.** Conserve aggregate mineral resources within the Planning Area, as identified by the Division of Mines and Geology, and allow for responsible extraction to meet Fresno’s needs.
- **Policy RC-10-a: Meet Future Needs.** Adopt land use and resource protection regulations that support mining of the high-quality, close-to-market aggregate resources to meet the needs of the Fresno Production-Consumption Region.
- **Policy RC-10-b: Zoning in San Joaquin Riverbottom.** Maintain zoning consistent with on-going mineral extraction in the San Joaquin Riverbottom that also allows multiple open space uses in conformance with State law and the City’s Surface Mining Ordinance.
- **Policy RC-10-c: Processing-Mining Link.** Accommodate only those mineral processing activities in the San Joaquin Riverbottom that are associated and co-located with mining operations when such industrial activities will sunset with the mining operation and do not stimulate unplanned growth or conversion of multi-use open space to urban uses.
- **Policy RC-10-f: Cooperate on Uniform Criteria.** Work with the County of Fresno, the County of Madera, and the City of Clovis to develop uniform criteria applicable to existing, new, and altered mineral extraction sites in the San Joaquin Riverbottom.

City of Fresno Surface Mining and Reclamation Ordinance. The City’s Surface Mining and Reclamation Ordinance (Section 12-5.5 of the Municipal Code) is intended to protect and allow recovery of mineral deposits in the Planning Area. Protection and recovery of mineral deposits is prioritized in order to promote the continued economic well-being of the city. However, since mining and mineral processing activities can have substantial adverse environmental impacts, the Surface Mining and Reclamation Ordinance allows the City to mitigate environmental impacts, if necessary, because discretionary projects are evaluated for project-specific impacts related to mineral resources at the time they are proposed. In general, the purpose of the Surface Mining and Reclamation Ordinance is to maximize recovery of mineral resources while also minimizing threats to the public health and safety, potential environmental damage, and nuisance effects of mining and mineral processing activities.

3.13.3 Impact Assessment

a) 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?

Less than Significant Impact. The Project is located in an MRZ-3 zone. The MRZ-3 zone, as discussed in **Section 3.13.2.2**, is defined as an area containing mineral deposits, the significance of which cannot be evaluated. Therefore, there are no known mineral resources that would be of value to the region and residents of the state, and impacts would be less than significant.

b) 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?

Less than Significant Impact. The Project is located in an MRZ-3 zone and is not delineated on an applicable land use plan as a locally-important mineral resource recovery site. The MRZ-3 Zone, as discussed in **Section**

3.13.2.2, is defined as an area containing mineral deposits, the significance of which cannot be evaluated. The Project site does not contain economically-viable soils, as depicted in Table 1 of [Error! Reference source not found.](#) There are no known current or historic mineral resource extraction or recovery operations in the Project vicinity nor are there any known significant mineral resources onsite. The closest active mining operation is operated by Vulcan Materials located approximately nine miles northeast of the Project site, at 11599 North Friant Road. Should the river bottom contain significant mineral resources, the Project would not preclude access to those minerals as there is no existing right-of-way or access easement to the river bottom for mineral resource extraction purposes. There would be a less than significant impact related to mineral resources.

3.14 Noise

Table 3-23. Noise Impacts

Noise Impacts				
Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Environmental Setting and Baseline Conditions

Except for the existing residential neighborhood to the east of the Project site, the Project is not located in the vicinity of noise sensitive land uses. The Project site is located approximately 2.25 miles west of the Sierra Sky Park Airport, but it is located outside of all of the identified airport protection zones within the Fresno County, Airport Land Use Compatibility Plan (ALUCP). State Route (SR) 99, located approximately 0.4 miles southwest is identified in the Fresno General Plan as a significant transportation noise source within the Project area.

3.14.2 Regulatory Settings

3.14.2.1 Federal

United States Environmental Protection Agency. In 1972, Congress enacted the United States Noise Control Act. This act authorized the United States Environmental Protection Agency (USEPA) to publish descriptive data on the effects of noise and establish levels of sound “requisite to protect the public welfare with an adequate margin of safety.” These levels are separated into health (hearing loss levels) and welfare (annoyance levels). For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to 70 dBA during a 24-hour period of time. At 55 dBA Ldn, 95 percent sentence clarity (intelligibility) may be expected at 11 ft, with no community reaction. However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance. The USEPA cautions that these identified levels are guidelines, not standards.²¹

Federal Vibration Impact Standards. Vibration impact criteria included in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual²² are used in this analysis for ground borne

²¹ U.S. Environmental Protection Agency. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.

²² Federal Transit Administration. 2018. Office of Planning and Environment. Transit Noise and Vibration Impact Assessment.

vibration impacts on human annoyance, as shown in **Table 3-24** below. The criteria presented in **Table 3-24** account for variation in project types as well as the frequency of events, which differ widely among projects. It is intuitive that when there will be fewer events per day, it should take higher vibration levels to evoke the same community response.

Table 3-24. Ground borne Vibration and Noise Impact Criteria

Land Use Category	Ground borne Vibration Impact Levels (VdB re 1 micro-inch/sec)		Ground borne Noise Impact Levels (dB re 20 micro-Pascals)	
	Frequent Events ^a	Infrequent Events ^b	Frequent Events ^a	Infrequent Events ^b
Category 1: Buildings in which low ambient vibration is essential for interior operations (i.e., vibration-sensitive manufacturing, hospitals with vibration sensitive equipment, and university research operation	65 VdB ^c	65 VdB ^c	N/A ^d	N/A ^d
Category 2: Residences and buildings in which people normally sleep.	72 VdB	80 VdB	35 VdB	43 VdB
Category 3: Institutional land uses with primarily daytime uses.	75 VdB	83 VdB	40 VdB	48 VdB

Source: Federal Transit Administration (FTA). Transit Noise and Vibration Impact Assessment Manual (September 2018).

^a Frequent events are defined as more than 70 events per day.
^b Infrequent events are defined as fewer than 70 events per day.
^c This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
^d Vibration-sensitive equipment is not sensitive to ground borne noise.

dB = decibels
 dBA = A-weighted decibels
 HVAC = heating, ventilation, and air conditioning

inch/sec = inch(es) per second
 re = relative
 VdB = vibration velocity decibels

This is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, in which the term “frequent events” is defined as more than 70 events per day.

3.14.2.2 State

The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the State Noise Insulation Standard, it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been

designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

In addition, Chapter 5, Section 5.507 of the California Green Building Standards Code includes nonresidential mandatory measures, which require that buildings exposed to a noise level of 65 dB Leq-1-hour during any hour of operation shall have building, addition, or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite Sound Transmission Class (STC) rating of at least 45 (or Outdoor/Indoor Transmission Class [OITC] 35) with exterior windows of a minimum STC of 40 (or OITC 30).

The State has also established land use compatibility guidelines for determining acceptable noise levels for specified land uses.

3.14.2.3 Local

City of Fresno General Plan. The General Plan contains a set of policies and programs that form a blueprint for the physical development of the city. The following objectives and policies related to noise. In addition, the Noise Element sets noise standards for transportation and stationary noise sources as shown in **Table 3-25** and **Table 3-26** below.

Table 3-25. Transportation (Non-Aircraft) Noise Sources

Noise-Sensitive Land Use ^a	Outdoor Activity Areas ^b	Interior Spaces	
	L _{dn} /CNEL, dB	L _{dn} /CNEL, dB	L _{eq} dB ^b
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

Source: City of Fresno General Plan (2014).
^a Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
^b As determined for a typical worst-case hour during periods of use

Table 3-26. Stationary Noise Sources

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	60

Source: City of Fresno General Plan (2014).
^a The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
^b As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.

- **Objective NS-1.** Protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.
- **Policy NS-1-a: Desirable and Generally Acceptable Exterior Noise Environment.** Establish 65 dBA Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dBA Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.
- **Policy NS-1-b: Conditionally Acceptable Exterior Noise Exposure Range.** Establish the conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2.
- **Policy NS-1-c: Generally Unacceptable Exterior Noise Exposure Range.** Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential and other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise-sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally desirable or generally acceptable exterior noise level and the required 45 dB interior noise level standards set in Table 9-2 as conditions of permit approval.
- **Policy NS-1-f: Performance Standards.** Implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB Ldn or CNEL, as shown on Figure NS-3: Future Noise Contours, or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Tables 9-2 and Policies NS-1-a through NS-1-c.
- **Policy NS-1-g:** Noise mitigation measures which help achieve the noise level targets of this plan include, but are not limited to, the following:
 - Façades with substantial weight and insulation;
 - Installation of sound-rated windows for primary sleeping and activity areas;
 - Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
 - Greater building setbacks and exterior barriers;
 - Acoustic baffling of vents for chimneys, attic and gable ends;
 - Installation of mechanical ventilation systems that provide fresh air under closed window conditions.
- **Policy NS-1-k: Proposal Review.** Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.
- **Policy NS-1-m: Transportation Related Noise Impacts.** For projects subject to City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise-sensitive land uses.
- **Policy NS-1-n: Best Available Technology.** Require new noise sources to use best available control technology to minimize noise emissions.
- **Policy NS-1-o: Sound Wall Guidelines.** Acoustical studies and noise mitigation measures for projects shall specify the heights, materials, and design for sound walls and other noise barriers. Aesthetic considerations shall also be addressed in these studies and mitigation measures such as

variable noise barrier heights, a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor, with a maximum allowable height of 15 feet. The City will develop guidelines for aesthetic design measures of sound walls, and may commission area wide noise mitigation studies that can serve as templates for acoustical treatment that can be applied to similar situations in the urban area.

City of Fresno Municipal Code: The following municipal code regulations further regulate noise within City limits:

- **SEC. 10-102. Definitions. (b) Ambient Noise.** “Ambient noise” is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location.

Table 3-27. Ambient Noise Levels

District	Time	Sound Level Decibels
Residential	10:00 p.m. to 7:00 a.m.	50
Residential	7:00 p.m. to 10:00 p.m.	55
Residential	7:00 a.m. to 7:00 p.m.	60

- **SEC. 10-105. Excessive Noise Prohibited.** No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:
 - Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.
 - Animals or fowl creating, generating, or emitting any cry or behavioral sound.
 - Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.
 - Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools.

3.14.3 Impact Assessment

a) 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 the local general plan or noise ordinance, or applicable standards of other agencies?

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?
Potentially Significant Impacts. The proposed Project may result in significant increases in both temporary as well as permanent noise and/or vibration, particularly from vehicles associated with the Project. Therefore, this impact is potentially significant, and this topic will be addressed in the Project’s forthcoming EIR. The Focused EIR will include an assessment of Project-related noise impacts and will consider traffic patterns in and around the Project.

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?

No Impact. The Project is located more than two miles west of the Sierra Sky Park Airport and is located outside of all of the identified airport protection zones within the Fresno County, Airport Land Use Compatibility Plan (ALUCP). There would be no impact.

3.15 Population and Housing

Table 3-28. Population and Housing Impacts

Population and Housing Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Environmental Setting and Baseline Conditions

The existing site contains no residential dwelling units and is vacant. A residential subdivision lies immediately to the east of the Project site.

3.15.2 Impact Assessment

a) 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)?

Less than Significant Impact. The Project proposes to redesignate land designated for a PG&E substation and open space. The residential development proposed would create 89 single-family residential lots. The Fresno Housing Element estimates each household is composed of 3.07 persons, and thus the Project would likely house approximately 273 people not previously planned for. The 2035 Fresno General Plan estimated a population buildout of 970,000 persons in 2056. However, a 2019 Fresno Council of Governments growth projection analysis, revised in 2021, showed that Fresno is anticipated to increase in population to approximately 728,200 persons at an average annual rate of 0.7%.²³ Further extrapolation would likely bring this population to 759,325 in 2056. This amount of growth proposed is less than an 0.001 percent, which is not considered substantial growth in Fresno or the region, and is consistent with the assumed growth rates in the General Plan. The approximately 273 new persons may arrive from within or outside City limits. The Project would not include upsizing of offsite infrastructure or roadways. The installation of new infrastructure would be limited to those necessary to provide the necessary utilities to serve the Project, and the capacity of such utilities would be specific to the number of units proposed within the Project site. The Project would not induce substantial population growth in an area, either directly or indirectly. Impacts would therefore be less than significant.

²³ Applied Development Economics. Fresno County 2019-2050 Growth Projections. October 2020. Revised April 9, 2021. Website: https://2ave3l244ex63mgdyc1u2mfp-wpengine.netdna-ssl.com/wp-content/uploads/2021/04/Fresno-COG-2019_2050-Projections-Final-Report-040921.pdf. Accessed September 2021.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project proposes a residential development on vacant, undeveloped land. The Project would not displace substantial numbers of existing people or housing, and thus there would be no impact.

3.16 Public Services

Table 3-29. Public Services Impacts

Public Services Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.16.1 Environmental Setting and Baseline Conditions

The Project site is located west of Thiele Avenue and south of the San Joaquin River. It is 17.58 acres of vacant property. The Project site is served by Fire Station 18, Central Unified School District, and the Northwest Policing District.

3.16.2 Regulatory

Fire Department. The City of Fresno Fire Department (Fire Department) provides fire suppression, fire prevention, hazardous material mitigation, rescue, and emergency medical services to an area of approximately 115 square miles with service to the City of Fresno, the Fig Garden Fire District, and Fresno Yosemite Airport. Contract services continued to the residents of the North Central Fire Protection District in the Northwest area of the City.²⁴

City of Fresno General Plan. Public Utilities and Services Element

Objective PU-2²⁵. Ensure that the Fire Department’s staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

²⁴ Fresno Fire Department. 2020. Annual Report. Available online at: <https://www.fresno.gov/fire/wp-content/uploads/sites/6/2021/02/2020-Annual-Report-Low-Resolution.pdf> (accessed June 2021).

²⁵ General Plan Implementation Review Committee. Planning and Development Department June 9, 2020. Available online at: <https://www.fresno.gov/darm/wp-content/uploads/sites/10/2020/06/6-9-20-Presentation.pdf> (accessed June 2021).

- **PU-2-a: Unify Fire Protection.** Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.
- **PU-2-b: Maintain Ability.** Strive to continually maintain the Fire Department’s ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.
- **PU-2-c: Rescue Standards.** Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed train corridor.
- **PU-2-d: Station Siting.** Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City’s Geographic Information Systems (GIS) database, and a fire station location program to achieve optimum siting of future fire stations.
- **PU-2-e: Service Standards.** Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:
 - **First Unit on Scene** – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
 - **Effective Response Force** – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21 firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.
- **Objective PU-3:** Enhance the level of fire protection to meet the increasing demand for services from an increasing population.
- **Policy PU-3-a: Fire Prevention Inspections.** Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including a self-certification program.
- **Policy PU-3-b: Reduction Strategies.** Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g. young children, older adults, non-English speaking residents, persons with disabilities, etc.), and high life hazard occupancies.
- **Policy PU-3-c: Public Education Strategies.** Develop strategies to re-establish and enhance routine public education outreach to all sectors of the community.
- **Policy PU-3-d: Review Development Applications.** Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.
- **Policy PU-3-e: Building Codes.** Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City’s fire suppression capabilities.
- **Policy PU-3-f: Adequate Infrastructure.** Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.
- **Policy PU-3-g: Cost Recovery.** Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

Police Department. The City of Fresno Police Department (Police Department) provide a full range of police services, including uniformed patrol response to calls for service, crime prevention, tactical crime enforcement (such as gang/violent crime suppression), as well as traffic enforcement/accident prevention. Other services

and special units include the Explosive Ordinance Disposal Unit (EOD), Internal Affairs, the K9 Unit, horse-mounted Mounted Patrol, Skywatch, Specialized Weapons and Tactics (SWAT), and the Records Bureau. The Department consists of four divisions: The Support Division, the Investigations Division, the Patrol Division, and the Administration Division.

Schools: Central Unified School District (Central USD) serves the northwestern and west area as well as a large rural area west of the city. Central USD currently serves 16,286 students at 21 schools and has experienced significant growth necessitating the expansion of facilities over the past decade.

SB 50: Senate Bill 50 provided a comprehensive school facilities financing and reform program by, among other methods, authorizing a \$9.2 billion school facilities bond issue, school construction cost containment provisions, and an eight-year suspension of the Mira, Hart, and Murrieta court cases. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions (e.g., general plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart, and Murrieta court cases. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation.” These provisions are in effect and will remain in place as long as subsequent state bonds are approved and available.

3.16.3 Impact Assessment

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection: *Less than Significant Impact.* The Project is located within the boundaries of the Fire Station 18 Service Area. Fire Station 18 is located at 5938 North La Ventana Avenue, 2.2 miles south of the project. The Fresno Fire Department reviewed the project and determined that it could adequately service the Project. In the future, Fire Station 18 will construct a permanent fire station located at 6605 West Shaw Avenue, approximately 4.7 miles of the project. Additional Fire service requirements for development of the proposed project will include installation of public fire hydrants, installation of fire sprinklers within future commercial buildings; and two means of emergency access during all phases of construction. Additionally, the Project proposes two points of access, an Emergency Vehicle Access easement, and the trail will be designed to accommodate fire apparatus in the event of a fire located adjacent to the San Joaquin River. Payment of impact fees to fire facilities is a requirement prior to issuance of building permits. Therefore, the project would have a less than significant impact.

Police Protection: *Less than Significant Impact.* The Fresno Police Department has five policing districts. The Project is serviced by the Northwest Fresno Police Department (5A) located at 3080 West Shaw Avenue, 5.3 miles southeast of the project. No new city police protection facilities would be required to serve the area. Payment of impact fees to police facilities is a requirement prior to issuance of building permits. Impacts would be less than significant.

Schools: *Less than Significant Impact.* The Project is served by the Central Unified School District. Based on the location of the project and students grade level students can attend the following schools.

Table 3-30. Nearest Schools

School	Grades	Address	Distance from Project
River Bluff Elementary	K-6	6150 West Palo Alto Avenue	2.3 mi SE
Rio Vista Middle School	7-8	6240 West Palo Alto Avenue	2.0 mi SE
Central High - East Campus	9-12	3535 North Cornelia Avenue	5.6 mi SE
Central High - West Campus	9-12	2045 North Dickenson Avenue	8.6 mi SE
Justin Garza High	9-10	4100 North Grantland Avenue	3.8 mi SE

The Project would generate approximately 52 students, distributed as follows:

Table 3-31. Project Student Generation

Grades	Students per Dwelling Unit ²⁶	Students
K-6	.340	31
7-8	.0951	9
9-12	.132	12

Payment of fees to a school district is considered full mitigation for project impacts on school facilities (Government Code Section 65996(a)). Therefore, the project applicant would be required to pay the statutory fees to accommodate the impact of project-generated students, reducing impacts to a less than significant level. SB 50 deems payment of the fees “to provide full and complete school facilities mitigation.” As payment of these fees is required prior to issuance of building permits, impacts will be less than significant.

Parks: Less than Significant Impact. The Project site is served by the City of Fresno Parks, After School, Recreation and Community Services. There are two parks within a one-mile radius. The closest park to the project is Riverside Municipal Golf Course located at 7492 North Bryan Avenue, 0.43 miles east of the Project²⁷.

The City of Fresno has established Park Land Dedication and Reservation requirements (FMC Section 15-3701) and Developer Dedication or Construction of Facilities (FMC Section 12-4.705). Park land dedication/reservation would require either dedication, reservation or payment of in-lieu fees equal to 0.00933 acres for each residential unit for a requirement of 0.83 acres. Park Facilities require construction or payment of in-lieu fees equal to 0.001884 acres per residential unit for a requirement of 0.17 acres. To satisfy the Park Facilities requirement, the Project is required to construct a neighborhood pocket park within its boundaries. The pocket parks would offset the open space and recreational needs of the Project. The Project developer would be required to pay in-lieu fees to meet its Park Land Dedication and Reservation requirements. As the Project includes construction of park facilities and payment of in-lieu fees to offset its impacts, the Project will have a less than significant impact on park and recreational facilities and will not warrant the need for new or physically altered park and recreational facilities to meet performance objectives. Furthermore, parks located within the subdivision would be maintained through property owner-assessed Community Facilities District, ensuring acceptable objectives will be maintained.

The Project includes amending the General Plan to redesignate approximately 14 acres of Regional Park to a non-park land use. The General Plan segments sectors of the City into 12 different areas, with the Project site located in “Established Neighborhoods North of Shaw”, an area west of State Route 99 to the west side of Willow Avenue. The Parks Master Plan identifies this area as having a 2035 population of 167,777, with a total of 683 acres of regional, open space, and special use parks. With a regional, open space, and special use parks goal of 2 acres per 1,000 people, a total of 335 acres of open space would be needed for the Established Neighborhoods North of Shaw Avenue region, thus the Established Neighborhoods North of Shaw area has a surplus amount of planned park space of approximately 348 acres. A review of the General Plan Land Use map indicates there is approximately 683 acres planned for such uses. The 2035 General Plan desires a regional parks acreage of 2.0 acres per 1,000 population. The Project proposes to redesignate 14 acres of regional park, and construct 89 homes, which would generate an additional 277 persons. This would decrease the amount of planned regional park space and increase the demand for regional park space. Despite the decrease in planned park space, and the increase in demand for parks because of an increase in population, the Project would not cause a reduction in park space below required amounts, and thus will have a less than significant impact.

²⁶ Central Unified School District. *School Facility Needs Analysis and Justification Study*. November 2020.

²⁷ City of Fresno. City of Fresno Parks Locator. Website:

<https://cityoffresno.maps.arcgis.com/apps/webappviewer/index.html?id=53f212b20a0f47efb6681df6c8ad2eaa>. Accessed June 2021.

Table 3-32. Regional, Open Space, and Special Use Park Acreage, Existing and Proposed

	Planned Population	Planned Regional, Open Space, and Special Use Park Acreage	Planned Park Acreage per 1,000	Required Acreage
Existing	167,777	683	4.07	335
Existing + Project	168,054	669	3.98	336
General Plan Goal, Threshold			2.00	
Threshold Exceeded?			No	

Other Public Facilities: Less than Significant Impact. Other public facilities include the Fresno Division U.S. District Courthouse, libraries, and hospitals. Though the Project may necessitate some increased maintenance for these public facilities, this potential increase can be paid for by property taxes generated by this development. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities. Impacts would be less than significant.

3.17 Recreation

Table 3-33. Recreation Impacts

Recreation Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.17.1 Environmental Setting and Baseline Conditions

The Project site is served by the City of Fresno Parks, After School, Recreation and Community Services (PARCS). There are two parks within a two-mile radius. The closest park to the project is Riverside Municipal Golf Course located at 7492 North Bryan Avenue, 0.46 miles east of the Project. The Fresno County Horse Park is located directly to the south of the Project site. Figure MT-2 of the Fresno General Plan depicts a planned Class I bicycle/pedestrian path along the northern perimeter of the Project site.

The proposed project would not result in the physical deterioration of existing parks or recreational facilities. The proposed project includes the development and dedication of public open spaces dedicated for parks and trails, located within the project, and constructed by the development. Demand for parks generated by the project is within planned services levels of PARCS.

3.17.2 Regulatory Setting

San Joaquin River Parkway Master Plan Update. The San Joaquin River Conservancy is an agency of the State of California created by the Legislature to create the San Joaquin River Parkway by: acquiring 5,900 acres from willing sellers for Parkway purposes; enhancing and restoring riparian, floodplain, and other habitats, and conserving natural and cultural resources on its lands; and developing and managing its lands for public recreational and educational uses compatible with resource protection. The Conservancy also assists other entities in conserving and improving their lands for the Parkway. The Conservancy works to facilitate the development of the Parkway, cultivate public support, and secure its future.

- **Policy HABITAT.19:** Whenever feasible, route primary and multi-use trails on the outside edges of habitat areas, rather than through the center of mature riparian stands or other high-value habitat.
- **Policy AIR.10:** Strive to connect primary multi-use trails to increase pedestrian and bicycle travel, reduce residents’ reliance on motorized vehicles, and allow for longer, contiguous sections of the Parkway trail.
- **Policy ACCESS.9:** Where possible, align and design trails and bikeways to avoid steep grades, environmentally-sensitive areas, erodible soils, and potential hazards.

- **Policy ACCESS.21:** Develop a trails system consisting of a continuous multi-use trail the length of the Parkway and secondary trails to provide additional connectivity to Parkway facilities and amenities including but not limited to river access, hiking trails, and trail loops.
- **Policy ACCESS.22:** Construct the continuous multi-use trail with separate, parallel trails: one with a firm granular or paved 12-foot-wide surface for cyclists, disabled individuals and other users preferring a hard surface; and one with a soft granular (e.g., decomposed granite or crushed quarry fines) or native soil 8-foot-wide surface for equestrians and hikers. Where separate trails are not appropriate or feasible, provide an extra-wide single corridor trail constructed of a 12-foot-wide firm granular or asphalt section and an 8-foot-wide soft granular or native soil shoulder on one side.
 - a. In the event there is not sufficient width to construct a multi-use trail as described above, implement restrictions (such as signage and barriers) on horse, bicycle and foot traffic to reduce potential conflicts or effects from heavy use.
 - b. Consider paving the primary multipurpose trail system with asphalt, concrete, or other durable smooth surface materials. Consider such paving for other trails anticipated to receive heavy traffic, sections designed to provide ADA access, and other trails where long term durability is desired.
 - c. For internal trails that provide access to natural reserves, river access, hiking trails, and trail loops within the trail system, construct low-impact footpaths a minimum of 24 inches wide using soft granular material, such as decomposed granite or crushed quarry fines, or native soil.
- **Policy ACCESS.33:** Site, grade and construct equestrian facilities, equestrian trails, and other unpaved trails of suitable materials and with appropriate runoff best management practices to minimize the potential for sediments to be carried into adjacent waterways.
- **Policy BUFFER.8:** Require observation points and trails be designed to pass no closer than 750 feet from rookeries with screening of rookeries provided along path, or close the features during the breeding season.

City of Fresno General Plan. The General Plan contains the following objectives and policies related to recreation:

- **Policy MT-4-c Bikeway Linkages.** Provide linkages between bikeways, trails and paths, and other regional networks such as the San Joaquin River Trail and adjacent jurisdiction bicycle systems wherever possible.
- **POSS-1-a Parkland standard.** Implement a standard of at least three acres of public parkland per 1,000 residents for Pocket, Neighborhood, and Community parks throughout the city, while striving for five acres per 1,000 residents for all parks throughout the city, subject to identifying additional funding for Regional Parks, Open Space/Natural Areas, and Special Use Parks/Facilities.

3.17.3 Impact Assessment

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

Less than Significant Impact. The Project is located within two miles from two existing public community or regional parks. Additionally, the project will include the development and dedication of public open spaces in the form of pocket parks and trails, which will be located within the project and constructed with development.

The Project includes amending the General Plan to redesignate approximately 14 acres of Regional Park to a non-park land use. The General Plan segments sectors of the City into 12 different areas, with the Project site located in “Established Neighborhoods North of Shaw”, an area east of State Route 99 and to the west side of Willow Avenue. The Parks Master Plan²⁸ identifies this area as having a 2035 population of 167,777, with a

²⁸ City of Fresno. *Fresno Parks Master Plan*. December 2017. Website: <https://www.fresno.gov/darm/wp-content/uploads/sites/10/2018/05/FresnoPMPFinalDocumentwithAppA051818.pdf>. Accessed June 2021.

total of 683 acres of regional, open space, and special use parks. With a regional, open space, and special use parks goal of 2 acres per 1,000 people, a total of 335 acres of open space would be needed for the Established Neighborhoods North of Shaw Avenue region, thus there is a surplus amount of planned park space of approximately 348 acres. A review of the General Plan Land Use map indicates there is approximately 683 acres planned for such uses. The 2035 General Plan desires a regional parks acreage of 2.0 acres per 1,000 population. The Project proposes to redesignate 14 acres of regional park, and construct 89 homes, which would generate an additional 277 persons. Despite the decrease in planned park space, and the increase in demand for parks, the Project would have a less than significant impact, as depicted in

Table 3-32 above.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than Significant Impact with Mitigation. The Project currently consists of vacant, undeveloped land and will include the development and dedication of public open spaces in the form of pocket parks and trails, which will be located within the project and constructed with development. As the Project includes the construction of a pocket park, the Project will comply with mitigation measures included in the Air Quality, Biological Resources, and Cultural Resources Section. No off-site park space is required to be constructed. Impacts related to the construction of the pocket parks are included in the physical impacts evaluated as part of the Project. In addition to construction of park facilities, the Project may also be responsible for the payment of in-lieu fees for park land dedication/reservation. Therefore, impacts related to the construction or expansion of recreational facilities will be less than significant.

Mitigation Measures

AIR-1: Consistent with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site:

- 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.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. 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.
- 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.)
- 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 emission utilizing sufficient water or chemical stabilizer/ suppressant.

BIO-1: If possible, construction/grading should begin between September 1st – January 31st to avoid starting construction during the nesting period.

BIO-2: If construction is initiated between February 1st and August 30th, conduct a pre-construction survey for active raptor nests along the top of bank (there are no other trees on the site). If any active raptor nest is encountered, then a buffer zone should be established (based on the biologist recommendations) and monitoring performed to watch for potential nest abandonment. If the nesting pair shows signs of pending nest abandonment, then the biologist must consult with the CDFW to determine what further actions are needed to prevent abandonment.

BIO-3: No more than 30 days prior to construction, a biologist should inspect the site to determine whether burrowing owl, American badger, or San Joaquin kit fox have taken up residence. Consultation with the appropriate regulatory agencies (USFWS/CDFW) should be initiated if any of these species are found on the site.

- BIO-4:** At the start of construction, the work crew should be educated on the potential for special status species to be encountered. The training should include species information (burrowing owl, San Joaquin kit fox, American badger) and avoidance and protection measures to be taken if encountered.
- BIO-5:** Prior to any ground disturbance, bright orange fencing should be installed along the riparian bluff (top of bank) to keep any construction activities (equipment staging, parking, laydown of materials) from encroaching into the riparian/bluff zone.
- CUL-1:** Should archaeological remains or artifacts be unearthed during any stage of Project activities, work in the area of discovery shall cease until the area is evaluated by a qualified archaeologist. If additional mitigation is warranted, the Project proponent shall abide by recommendations of the archaeologist.
- CUL-2:** In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains until the Fresno County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

If the Fresno County Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).

After notification, the NAHC will follow the procedures outlined in Public Resources Code Section 5097.98, that include notification of most likely descendants (MLDs), and recommendations for treatment of the remains. The MLDs will have 24 hours after notification by the NAHC to make their recommendations (PRC Section 5097.98).

3.18 Transportation

Table 3-34. Transportation Impacts

Transportation Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)??	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.18.1 Environmental Settings and Baseline Conditions

The Project site consists of a vacant lot adjacent to Thiele Avenue, a local street whose right-of-way is approximately 60 feet wide. The Project site is adjacent to the San Joaquin River and PG&E-owned property. A portion of the Project site, along the bluff edge, is planned for a mixed-use (bicycle and pedestrian) trail by the General Plan and Active Transportation Plan.

The Fresno Council of Governments prepared a Vehicle Miles Traveled (VMT) screening map for CEQA purposes. Residential development of the Project site would result in higher-than-average vehicle miles traveled.

3.18.2 Regulatory Setting

City of Fresno Active Transportation Plan. The City’s Active Transportation Plan (ATP), adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in Fresno. The ATP supersedes the Bicycle, Pedestrian, and Trails Master Plan that was adopted in 2010. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan lays out specific goals to improve bicycle and pedestrian access and connectivity in Fresno. These goals include the following:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno;
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities;
- Improve the geographical equity of access to walking and bicycling facilities in Fresno; and,
- Fill key gaps in Fresno’s walking and bicycling networks.

City of Fresno Traffic Impact Study Report Guidelines. The City established general procedures and requirements for the preparation of traffic impact studies associated with development within the City of Fresno. The guidelines include, but are not limited to, discussion of study areas of traffic impact studies, the use of LOS as a metric for determining impacts, traffic analysis scenarios, traffic counts, and trip generation. City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds. In June 2020, the City adopted VMT thresholds and

guidelines to address the shift from delay-based LOS CEQA traffic analyses to VMT CEQA traffic analyses, as required by SB 743. The City’s document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants will be required to follow the guidance provided in the City’s document for preparation of CEQA VMT analysis. The document includes the following:

- Definition of region for VMT analysis;
- Standardized screening methods for VMT threshold compliance data;
- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans; and,
- Feasible mitigation strategies applicable for development projects, transportation projects, and plans.

3.18.3 Impact Assessment

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The Project is required to construct a trail implementing the General Plan’s Circulation Plan and Active Transportation Plan in addition to sidewalks. No short or long range transit plan indicates the provision of transit infrastructure on or near the Project site. The project requires a General Plan Amendment and thus a Traffic Impact Study is required to analyze the Project’s impact on the circulation system. A Traffic Impact Analysis was prepared by JLB, Inc. and found that the Project would not result in new system deficiencies. The Project will be required to pay its fair share of transportation impact fees, both local and regional. These fees will be used to address planned transportation system upgrades. Impacts will be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

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

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project’s effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities is no longer a relevant CEQA criteria for transportation impacts.

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

On June 25, 2020, the City of Fresno adopted CEQA Guidelines for Vehicle Miles Traveled Thresholds, dated June 25, 2020, pursuant to Senate Bill 743 to be effective of July 1, 2020. The thresholds described therein are referred to herein as the City of Fresno VMT Thresholds. The City of Fresno VMT Thresholds document was prepared and adopted consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor’s Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the Fresno VMT Thresholds.

The City of Fresno VMT Thresholds adopted a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from needing to prepare a detailed VMT analysis.

The City of Fresno VMT Thresholds Section 3.1 regarding Development Projects states that if a project constitutes a General Plan Amendment or a Rezone, none of the screening criteria may apply, and that the City must evaluate such projects on a case-by-case basis. In this case, the Project includes both a General Plan Amendment and a Rezone and does not meet the screening criteria. As such, a quantitative VMT analysis is required. The Project's impact on VMT may be potentially significant and will be analyzed in the EIR.

c) 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)?

Less than Significant Impact. The Project has been reviewed by the Public Works Department and the Fire Department to ensure that the Project would not increase hazards due to dangerous curves, incompatible uses or inadequate emergency access. The Public Works Department has appropriately conditioned the Project to ensure that curve radii, street widths and transitions conform to safety standards, and to ensure that street signalization appropriately addresses traffic generated by the Project and traffic patterns in the area. Therefore, there would be a less than significant impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project proposes two points of access provided off Thiele Avenue, and an Emergency Vehicle Access easement would be provided at the southwest portion of the subdivision. The Public Works Department has appropriately conditioned the Project to ensure that curve radii, street widths and transitions conform to safety standards, and to ensure that street signalization appropriately addresses traffic generated by the Project and traffic patterns in the area. As a result, impacts would be less than significant.

3.19 Tribal Cultural Resources

Table 3-35. Tribal Cultural Resources Impacts

Tribal Cultural Resources Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.19.1 Environmental Setting and Baseline Conditions

Public Resources Code Section 21080.3.1, et seq. (codification of Assembly Bill 52, (2013-14)) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

Government Code Section 65352.3, et seq. (codification of Senate Bill 18, (2003-2004)) requires that prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation unless a shorter timeframe has been agreed to by the tribe.

Pursuant to PRC § 21080.3. and Gov. Code § 65352.3, the City of Fresno has received letters from the Dumna Wo Wah and Table Mountain Rancheria of California Tribal Governments officially requesting notification. Formal notification was sent to these tribes on June 1, 2021. No responses have yet to be received.

3.19.2 Regulatory Settings

3.19.2.1 Federal

National Historic Preservation Act. The National Historic Preservation Act of 1966 (NHPA) is the most concise and effective federal law dealing with historic preservation. Federal preservation law does not apply to the purpose of this analysis, but a short review of the legislation is needed because the State and Local requirements have been derived from this legislation. The NHPA established guidelines to “preserve important historic, cultural, and natural aspects of our cultural heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice.” The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (known as Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. In addition, the NHPA authorizes the Secretary of the Interior to establish a National Register of Historic Places (The National Register). The Register is an inventory of districts, sites, buildings, structures and objects significant at a national, State, or local level in American history, architecture, archaeology, engineering, and culture. The National Register is wholly maintained by the National Park Service, the Advisory Council on Historic Preservation, and the State Office of Historic Preservation (SHPO) and grants-in-aid programs.

According to the National Park Service (NPS) and the State Historic Preservation Office (SHPO), the City is a Certified Local Government (CLG). The CLG program is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level. The program is jointly administered by NPS and SHPO, with each local community working through a certification process to become recognized as a CLG. CLG’s become an active partner in the Federal Historic Preservation Program and the opportunities (and funding) it provides.

3.19.2.2 State

California Register of Historical Resources. The California Register of Historical Resources (California Register or CRHR) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Important cultural resources can be listed in the California Register through a number of methods, and listing requires approval from the State Historical Resources Commission. Properties can be nominated to the California Register by local governments, private organizations, or citizens. State Historical Landmarks and National Register-listed properties gain automatic listing in the California Register. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. In order for a cultural resource to be significant, or in other words eligible, for listing in the California Register, it must reflect one or more of the following criteria (PRC 5024.1c):

- **Criterion 1 (Events):** Resources that are 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.
- **Criterion 2 (Persons):** Resources that are associated with the lives of persons important to local, California, or national history.
- **Criterion 3 (Architecture):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Environmental Quality Act. CEQA requires that public agencies assess the effects on historical resources of public or private projects that the agencies finance or approve. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

However, only significant historical resources need to be addressed. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

1. Identify potential historical resources.
2. Evaluate the eligibility of historical resources.
3. Evaluate the effects of the project on all eligible historical resources.

In addition, properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1[d][1]).

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment (State CEQA Guidelines 15064.5[b]). CEQA also states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of an historical resource or its immediate surroundings such that the significance of the resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or materially and adversely alter the physical characteristics of a historical resource that convey its historical significance and qualify or justify its eligibility for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Significant Historical Resources under CEQA Guidelines. In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a). The four categories are:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

These conditions are related to the eligibility criteria for inclusion in the CRHR (PRC Sections 5020.1[k], 5024.1, 5024.1[g]). A cultural resource may be eligible for inclusion in the CRHR if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; Is associated with the lives of persons important in our past;
2. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
3. Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.

A lead agency must consider a resource that has been listed in, or determined to be eligible for listing in the California Register (Category 1) as an historical resource for CEQA purposes. In general, a resource that meets any of the other three criteria listed in CEQA Guidelines Section 15064.5(a) is also considered to be a historical resource unless “the preponderance of evidence demonstrates” that the resource is not historically or culturally significant.”

State Health and Safety Code. The discovery of human remains is regulated according to California Health and Safety Code Section 7050.5, which states, “If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified to the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify Most Likely Descendant (MLD). With the permission of the landowner or his or her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.”

California Government Code 65352.3-5: Local Government-Tribal Consultation. California Government Code Sections 65092, 65351, 65352, 65352.3, and 65352.4, formally known as Senate Bill (SB) 18, regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption and amendment of general plans.

3.19.2.3 Local

City of Fresno General Plan. The General Plan contains the following objective and policies related to tribal cultural resources:

- **Objective HCR-1:** Maintain a comprehensive, citywide preservation program to identify, protect and assist in the preservation of Fresno's historic and cultural resources.
- **Objective HCR-2:** Identify and preserve Fresno's historic and cultural resources that reflect important cultural, social, economic, and architectural features so that residents will have a foundation upon which to measure and direct physical change.
- **Policy HCR-2-a: Identification and Designation of Historic Properties.** Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno's Local Register of Historic Resources and California and National registries, as appropriate.

- **Policy HCR-2-c: Project Development.** Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior’s Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.
- **Policy HCR-2-d: Native American Sites.** Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.
- **Policy HCR-2-f: Archaeological Resources.** Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

City of Fresno Municipal Code

Historic Preservation Ordinance. The City of Fresno has established a Historic Preservation Commission and a Local Register of Historic Resources (Fresno Municipal Code, Chapter 12, Article 16). The Ordinance is used to provide local levels of control over the historical aesthetics of cultural resources within the city, and to ensure that the potential impact to locally significant historical resources that may be the subject of redevelopment are given reasonable consideration. The purpose of the Ordinance is to:

[...] continue to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; to continue to protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this city, state and nation; to continue to safeguard the heritage of this city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the city’s historic, cultural, social, economic, political and architectural history; to continue to preserve and enhance the environmental quality and safety of these landmarks and districts; to continue to establish, stabilize and improve property values and to foster economic development. (Article 16 Section 12-1602(a).)

The Ordinance provides legislative mechanisms to protect certain historical resources. Local registers of identified historical resources are known, including:

- 1. Heritage Properties.** These are defined as a resource which is worthy of preservation because of its historical, architectural or aesthetic merit but which is not proposed for and is not designated as an Historic Resource under the ordinance.
- 2. Historic Resources.** These are defined as any building, structure, object or site that has been in existence more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling and association, and is associated with events that have made a significant contribution to the broad patterns of city history, or is associated with the lives of persons significant in our past, or embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master or possesses high artistic values; or has yielded, or may be likely to yield, important information in prehistory or history; and has been designated as such by the Council pursuant to the provisions of the Ordinance.
- 3. Local Historic Districts.** These are defined as any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. The Local Historic District must be significant as well as identifiable and it must meet Local Register Criteria for listing on that Register. Contributors to Historic Districts are defined as any Historic Resource that contributes to the significance of the

specific Local Historic District or a proposed National Register Historic District under the criteria set forth in the Ordinance.

4. National Register Historic Districts, which shall mean any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. A National Register Historic District must be significant as well as identifiable and it must meet National Register Criteria for listing on that Register. Contributors to a National Register Historic District are defined as any individual Historic Resource which contributes to the significance of a National Register Historic District under the criteria set forth in the Ordinance.

Certified Local Government. The Certified Local Government (CLG) Program is administered by the State Historic Preservation Office (OHP). When a Lead Agency becomes a CLG it agrees to carry out the intent of and serve as a local steward of the National Historic Preservation Act and the Secretary of the Interior's Standards. In meeting those standards, OHP serves as an advisor. The use of the National Register/California Register criteria and the Secretary of the Interior Standards integrates local, state, and federal levels of review. It brings clarity to the question of what resources are significant when it comes to CEQA and Section 106 of the National Historic Preservation Act. Adopting the Secretary of the Interior's Standards will allow the use of categorical exemptions under CEQA, and likely result of findings of no adverse effect under Section 106. The use of these criteria and standards make environmental review faster, more efficient, and reduces costs and delays. The City has been certified as a CLG since September 1996.

3.19.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Potentially Significant Impact. Notification of the Project was sent to California Native American tribes listed on the California Native American Heritage Commission (NAHC) list on June 1, 2021. Pursuant to AB 52 and SB 18, the tribes have 30 and 90 days, respectively, to request consultation to disclose, with the lead agency, any potential areas of concern. Although the Cultural Resource field surveys for the Project did not find any evidence of resources deemed of cultural value to a California Native American tribe, consultation was not done, but may still be requested to disclose confidential tribal cultural resources information which may result in a potentially significant effect. Therefore, this topic will be addressed in the Project's forthcoming EIR.

a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Potentially Significant Impact. Notification of the Project was sent to California Native American tribes listed on the California Native American Heritage Commission (NAHC) list on June 1, 2021. Pursuant to AB 52 and SB 18, the tribes have 30 and 90 days, respectively, to request consultation to disclose, with the lead agency, any potential areas of concern. Although the Cultural Resource field surveys for the Project did not find any evidence of tribal cultural resources, consultation was not done, but may still be requested to disclose confidential tribal cultural resources information which may result in a potentially significant effect. Therefore, this topic will be addressed in the Project's forthcoming EIR.

3.20 Utilities and Service Systems

Table 3-36. Utilities and Service Systems Impacts

Utilities and Service Systems Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.20.1 Environmental Setting and Baseline Conditions

The Project site is located West of Thiele Ave and south of the San Joaquin River. It is 17.58 acres of property proposed for construction of 89 conventional single-family residences, regional park, public facilities, (PG&E substation), trails, parking, and infrastructure required to service the area.

3.20.2 Regulatory

City of Fresno General Plan. The following objective and policies related to utilities can be found below:

- **Objective PU-8.** Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification.
- **Policy PU-8-a: Forecast Need.** Use available and innovative tools, such as computerized flow modeling to determine system capacity, as necessary to forecast demand on water production and distribution systems by urban development, and to determine appropriate facility needs.
- **Policy PU-8-b: Potable Water Supply and Cost Recovery.** Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and

new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

- **Policy PU-8-c: Conditions of Approval.** Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.
- **Policy PU-8-d: CIP Update.** Continue to evaluate Capital Improvement Programs and update them, as appropriate, to meet the demands of both existing and planned development consistent with the General Plan.
- **Policy PU-8-e: Repairs.** Continue to evaluate existing water production and distribution systems and plan for necessary repair or enhancement of damaged or antiquated facilities.
- **Policy PU-8-f: Water Quality.** Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.
- **Policy PU-8-g: Review Project Impact on Supply.** Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.
- **Objective PU-9.** Provide adequate solid waste facilities and services for the collection, transfer, recycling, and disposal of refuse.
- **Policy PU-9-a: New Techniques.** Continue to collaborate with affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.
- **Policy PU-9-b: Compliance with State Law.** Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.
- **Policy PU-9-c: Cleanup and Nuisance Abatement.** Continue and enhance, where feasible, community sanitation programs that provide services to neighborhoods for cleanup, illegal dumping, and nuisance abatement services.
- **Policy PU-9-d: Facility Siting.** Locate private or public waste facilities and recycling facilities in conformance with City zoning and State and federal regulations, so that the transportation, processing, and disposal of these materials are not detrimental to the public health, safety, welfare, and aesthetic well-being of the surrounding community.
- **Policy PU-9-e: Tire Dumping.** Adopt and implement, as determined appropriate, measures to eliminate illegal tire dumping.

3.20.2.1 Water Supply

The City's water supply derives from groundwater, imported water, surface water sources and limited amounts of recycled water. The City of Fresno DPU provides potable water to the majority of the City, and some users outside of the City limits. Fresno's primary source of potable water is groundwater stored in an aquifer. However, in 2004 the City's first surface water treatment facility (Northeast Surface Water Treatment Facility [NESWTF]) came online and began delivering approximately 4,060 acre-feet (AF) in 2004 to residents in northeast Fresno.

The City lies within the Kings Sub-basin, which is part of the larger San Joaquin Valley Groundwater Basin, and extracts a majority of water to meet its demands from this underground aquifer. Historically, the groundwater levels in the Fresno area have declined from less than 0.5 feet per year in the southwest portion of the downtown area, to a rate of 1.5 feet per year for northern and southern areas of town, to a maximum of three (3) feet per year in the northeastern area.

3.20.2.2 Wastewater Collection and Treatment

The City of Fresno owns and maintains the majority of the wastewater collection systems that convey wastewater to the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF), and all of the wastewater collection system that conveys wastewater to the North Fresno Water Reclamation Facility (NFWRF). Wastewater would be collected via City maintained sewer lines and transmitted to facilities operated by the City's Department of Public Works. The Project will be served by the North Fresno Wastewater Treatment Facility (NFWTF), which has a permitted capacity of 0.71 million gallons per day (mgd) average monthly flow and 1.07 mgd maximum daily flow.²⁹

3.20.2.3 Landfills

Solid waste generated by the Project would be disposed at the American Avenue Sanitary Landfill, located in Kerman, CA. The landfill has a maximum permitted capacity of 32,700,000 cubic yards, with last reported remaining capacity of 29,358,535 cubic yards. The landfill has an estimated closure date for August 2031. The landfill currently has sufficient capacity to serve the Project. The Project is not anticipated to generate solid waste in excess of State or local standards.

3.20.3 Impact Assessment

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. The Project is adjacent to an urban and developed area of the City. Therefore, the Project would connect to existing water, wastewater, and stormwater infrastructure within the City. As described below in section b), the City would have adequate water supplies to serve the Project. Therefore, the Project would not require the relocation or construction of new or expanded water facilities. Additionally, as described under section c), the Project would be served by the existing wastewater treatment provider and would not require the construction of new or expanded wastewater facilities.

As mentioned previously, stormwater would be conveyed through the construction of inlets and storm drains into the proposed drainage basin southwest of the Project site. The construction of this stormwater infrastructure would be required to comply with applicable federal, State, and local regulations. The Project would connect to existing natural gas lines located along North Thiele Avenue, and existing power lines in the project vicinity. Natural gas and electricity connections would be coordinated with PG&E.

Therefore, the Project would not require the relocation or construction of new water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. Therefore, impacts would be less than significant.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. The Project must comply with the requirements of the Department of Public Works and the DPU for the construction of water, wastewater, and storm water drainage infrastructure. In the DPU's June 6, 2018 project comment letter, conditions were provided to the applicant for project compliance. As mentioned, the Project would comply with said conditions and requirements. In addition, the developer will be responsible for the payment of development impact fees to off-set potential impacts to regional facilities, resulting in less than significant impacts.

²⁹ Department of Public Utilities Website: <https://www.fresno.gov/publicutilities/facilities-infrastructure/north-fresno-wastewater-treatment-facility-nfwtf/>. (accessed June 2021).

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Vesting Tentative Tract Map No. 6195

General Plan Land Use	Acreage	AF per Acre	Annual AF
Open Space, Regional Park	14	0.80	11.20
Open Space, Multi-Use	1.3	0.80	1.04
Public Facility, PG&E Substation	2.28	3.77	8.60
Total	17.58		20.84

General Plan Land Use	Acreage	AF per Acre	Annual AF
Medium Density Residential	17.58	2.17	38.12
Existing Land Uses	17.58		20.84
Increase / (Decrease) in Consumption			17.28

Therefore, the Project is anticipated to consume an additional 17.28 acre-feet per year. To determine whether the increase is significant, a comparison to the supplies and demands of the General Plan land uses, and whether the increase would result in a deficit or exacerbate an existing or planned deficit.

	2025	2030	2035	2040	2045
Planned Supply	329,030	341,140	346,610	352,000	357,330
Planned Demand	199,204	212,756	222,310	231,876	241,447
plus Project	17	17	17	17	17
Total Demand	199,221	212,773	222,327	231,893	241,464
Surplus/(Deficit)	129,809	128,367	124,283	120,107	115,866
Significant Impact?	No	No	No	No	No

Source: 2020 UWMP Table 7-1; Provost & Pritchard Consulting Group

It is expected that the City would encounter dry years and, in worst case, multiple dry years. Below is an analysis of the City’s water supply, and its surpluses, with or without the Project. As depicted below, the Project would not cause a water supply deficit during multiple dry years.

		2025	2030	2035	2040	2045
First Year	Existing	74,521	66,509	62,425	58,249	54,008
	Existing plus Project	74,504	66,492	62,408	58,232	53,991
Second Year	Existing	75,422	67,410	63,326	59,150	54,909
	Existing plus Project	75,405	67,393	63,309	59,133	54,892
Third Year	Existing	27,301	29,471	30,842	32,215	33,589
	Existing plus Project	27,284	29,454	30,825	32,198	33,572
Fourth Year	Existing	27,301	29,471	30,842	32,215	33,589
	Existing plus Project	27,284	29,454	30,825	32,198	33,572
Fifth Year	Existing	115,636	107,624	103,540	99,364	95,123
	Existing plus Project	115,619	107,607	103,523	99,347	95,106
Significant Impact?		No	No	No	No	No

Source: 2020 UWMP Table 7-3; Provost & Pritchard Consulting Group

Therefore, the City has sufficient water supplies available to serve the Project and its existing commitments during normal, dry, and multiple dry years. Impacts would be less than significant.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?

Less than Significant Impact. The Project will be served by the NFWTF, which has a permitted capacity of 0.71 million gallons per day (mgd) average monthly flow and 1.07 mgd maximum daily flow. The NFWTF has

adequate capacity to serve the Project in addition to its existing commitments, therefore the Project will have a less than significant impact on wastewater capacity.

d) 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?

Less than Significant Impact. The American Avenue Disposal Site located in the City of Kerman is the primary landfill serving the majority of the City of Fresno. The American Avenue Disposal Site was permitted in the year 2000, with a permitted capacity of 32,700,000 cubic yards. As of 2005 the landfill had a remaining capacity of 29,358,535 cubic yards. The landfill has a maximum permitted throughput of 2,200 tons/day and an estimated closure year of 2031.³⁰ A typical residence disposes of approximately 10 pounds of solid waste each day.³¹ The 89 residences proposed by the Project would generate approximately 406 cubic yard of waste per year, representing approximately less than 1% of the landfill’s capacity at the landfill’s estimated closure date. Assuming the current maximum daily throughput of solid waste were committed to the landfill each day through its closure date, the Project’s incremental contribution of 4,056 cubic yards of solid waste would not result in the need for new or physically altered landfill facilities to meet service objectives, and thus there would be a less than significant impact.

Table 3-37. Solid Waste Data (Without & With Project)

Landfill Capacity		
Description	Cubic yards	% of Capacity
American Avenue Disposal Site Capacity	32,700,000	100%
American Avenue Disposal Site -Disposal Experienced Year 2000-2005	3,341,465	10%
Disposal Site- Annual Disposal at Permitted Throughput (No Project)	803,000	3%
Project Estimated Annual Disposal	406	<0.1%
Estimated Disposal at Permitted Throughput on Closure Date (No Project)	24,090,000	73.6%
Project Estimated Disposal Year 2021 - 2031 ³²	4,056	<0.1%
Estimated Disposal (With Project)	24,094,056	73.7%

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. The Project will be required to comply with all regulations applicable to solid waste generation for residential projects. The DPU provided comments on June 19, 2018, regarding solid waste requirements. In order for the Project to comply with local regulations, the Project would be provided with basic container service. Each property owner will receive a container for solid waste, green waste, and recyclable materials. Impacts will be less than significant.

³⁰ CalRecycle. Solid Waste Information System. Website: <https://www2.calrecycle.ca.gov/swfacilities/Directory/10-AA-0009/>. Accessed June 2021.

³¹ City of Fresno. Master Environmental Impact Report, Utilities and Service Systems. Website: <https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/Sec-05-15-UtilitiesMEIR.pdf>. Accessed June 2021.

³² For illustration purposes, this estimate assumes full Project buildout (89 residences) starting in year 2021.

3.21 Wildfire

Table 3-38. Wildfire Impacts

Wildfire Impacts				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.21.1 Environmental Setting and Baseline Conditions

The Project site is located in the northwestern section of the City of Fresno, approximately 0.5 miles northeast of State Route 99. The Project is in an urbanized setting along the San Joaquin River and would add a new subdivision to an area that already has housing in the vicinity. The Project site would be served by the City of Fresno for its fire protection needs and is not located in an area on or near a State Responsibility Area (SRA).³³ In addition, the Project site is in an urbanized setting that is not on or near land classified as a very high fire hazard severity zone.³⁴ The nearest very high fire hazard severity zone is located approximately 20 miles northeast near Millerton Lake.

3.21.2 Impact Assessment

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?

No Impact. The Project site is not located in or near an SRA area and it is approximately 20 miles southwest of the nearest area classified as a very high fire hazard severity zone, therefore the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. There would be no impact.

³³ ArcGIS. State Responsibility Zones. Website: <https://www.arcgis.com/apps/mapviewer/index.html?layers=5ac1dae3cb2544629a845d9a19e83991>. Accessed 5/21/21.

³⁴ ArcGIS. Is Your Home in a Fire Hazard Severity Zone? Website: <https://www.arcgis.com/apps/Styler/index.html?appid=5e96315793d445419b6c96f89ce5d153>. Accessed 5/21/21.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The Project site is not located in or near an SRA area and it is approximately 20 miles southwest of the nearest area classified as a very high fire hazard severity zone, therefore the Project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, there would be no impact.

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?

No Impact. The Project site is not located in or near an SRA area and it is approximately 20 miles southwest of the nearest area classified as a very high fire hazard severity zone, therefore the Project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. There would be no impact.

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?

No Impacts. The Project site is not located in an area that is designated on or near a State Responsibility Area (SRA), nor is it on or near lands that are designated as being a very high fire hazard severity zone. Although the Project site is not located in a very high fire hazard severity zone or an SRA, the City of Fresno Fire Department has included conditions of approval for the proposed project which will require the designated trail along the bluff edge and access paths to incorporate certain design features to accommodate fire access by the brush and patrol firefighting apparatus to protect homes. As a result, further analysis of the Project's potential impacts regarding wildfire are not warranted. Therefore, there would be no impacts.

3.22 CEQA Mandatory Findings of Significance

Table 3-39. Mandatory Findings of Significance Impacts

Mandatory Findings of Significance Impacts				
Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.22.1 Impact Assessment

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

Potentially Significant Impact. The analysis conducted in this Initial Study results in a determination that the Project, could have a significant effect on major periods of California history or prehistory, and thus will be discussed further in the EIR. The potential for impacts to aesthetics, biological resources, cultural resources, transportation and tribal cultural resources from the implementation of the proposed Project will be less than significant with the incorporation of the mitigation measures discussed in this analysis. Accordingly, the proposed Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Potentially Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would include a General Plan Amendment, Rezone and subdivision for purposes of allowing the development of a new residential subdivision and associated infrastructure to connect the proposed subdivision to City of Fresno infrastructure. Due to the change in General Plan land use, the Project could have a cumulatively considerable impact to air quality, energy, greenhouse gases, and transportation, and will be discussed further in the EIR.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. The analysis conducted in this Initial Study results in a determination that the Project could have a potentially substantial adverse effect on human beings, either directly or indirectly, and will be discussed further in the EIR.

3.23 Determination: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Robert Holt
Printed Name/Position

Appendix A

Biological Habitat Assessment

BIOLOGICAL HABITAT ASSESSMENT

Tentative Tract 6195

APN: 504-050-02, 504-130-12

City of Fresno, Fresno County, California

Prepared For:

Benchmark Communities, Inc.
7815 N. Palm Avenue, Suite 101
Fresno, California 93711

June 2020

BIOLOGICAL HABITAT ASSESSMENT

Tract 6195

City of Fresno, Fresno County, California

Prepared For:

Benchmark Communities

Prepared By:



2377 Gold Meadow Way, Suite 100
Gold River, CA 95670

June 2021

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Appendices

Attachment A:Historical Aerial Photographs

Attachment B: Photographs



1.0 EXECUTIVE SUMMARY AND INTRODUCTION

EXECUTIVE SUMMARY

Argonaut Ecological, Inc. conducted a biological review of a proposed development of Tract 6195 (17.5 acres) Study Area. The biological study focused on mapping existing habitat types based on a field review, reviewing public and communication databases, and reports on adjacent parcels, aerial photographs, and other published information and available data. The study included assessing the types of habitats present and sensitive species associated with those habitats. The study found that most of the Study Area has been used and managed for decades as fallow agricultural land.

The Study Area does not currently support any special status species, and the likelihood of species being present is low. However, the Study Area provides potentially suitable habitat for American badger, burrowing owl, and potential denning habitat for San Joaquin kit fox. Therefore, several recommendations are made for pre-construction surveys to minimize and avoid any impacts on these species. There are no wetlands/waters of the U.S. or State within the Study Area that would be affected by site development.

1.1 INTRODUCTION

The 17.5-acre study area abuts the San Joaquin River's south bank, immediately southeast of the Highway 99 bridge over the San Joaquin River. The Study Area is in the community of Herndon in Fresno County.

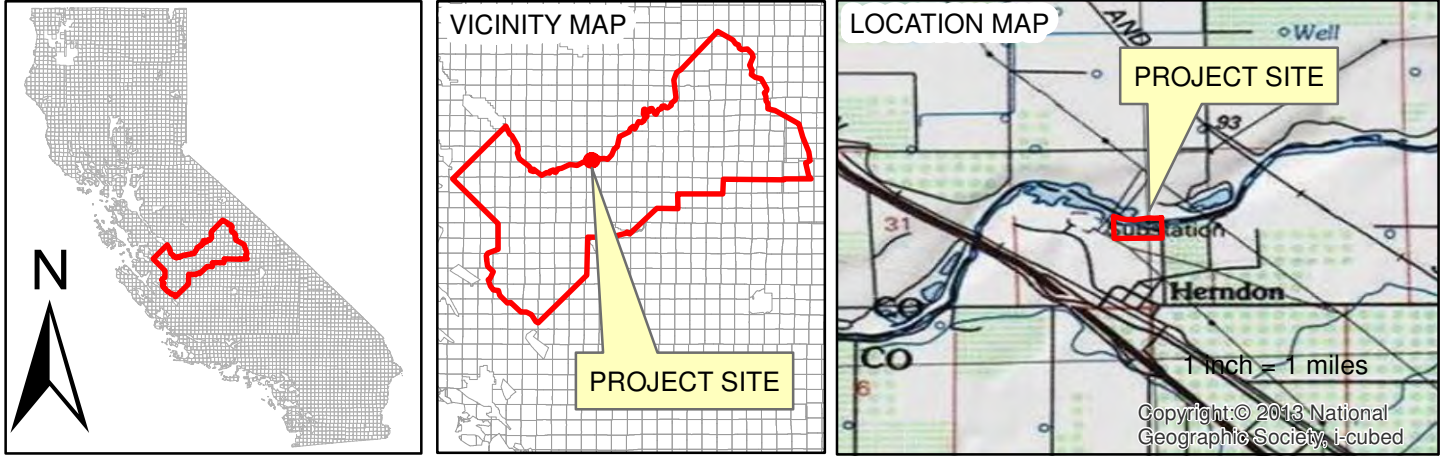
1.2 STUDY OBJECTIVES

This report provides an overall assessment of the biological resources potentially present within and adjacent to the Study Area, describes the area's biological characteristics, and the site likelihood to support sensitive biological resources (such as wetlands or creeks/drainages). This study used available literature, aerial photography, historic topographic and aerial maps, and site visit. The review's focus is to determine the study area's potential to support habitat used or occupied by special status species, especially within Tract 6195. "Wetland habitat" "for purposes of this study includes those areas possibly considered both "waters of the U.S.," defined by the U.S. Army Corps of Engineers, or wetlands as defined by the Army Corps and the State of California. As described in Section 1.2.1, wetlands are a subset of "Waters of the U.S. under the Federal Clean Water Act.



VICINITY AND LOCATION MAP

PROJECT: Tract No.6195 (APN 504-050-02, 504-130-12 &504-130-X1)
 PROJECT LOCATION: Part of Section 32, T. 12S., R.19E., Mount Diablo Base and Meridian
 Fresno County, California,



Legend

 APPROXIMATE BOUNDARY TM6195 (19.89 AC.)

Figure 1 Location Map



This report assesses the potential effects on biological resources if the current land-use changes. The specific type of land-use change would dictate the regulatory approvals or permits required. The review also focused on assessing and identifying any potential impacts site development may have on species protected by the Federal Endangered Species Act or protected under the California Environmental Quality Act or State Endangered Species Act. This review also evaluates whether the Study Area has Waters of the U.S., including any wetlands or waters of the state subject to regulation.

1.3 REGULATORY JURISDICTION AND BACKGROUND

Several agencies share regulatory jurisdiction over biological resources within the Study Area. The following is a brief description of the primary agencies and their respective jurisdiction.

Wetland Protection

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Army Corps) and the U.S. Environmental Protection Agency regulates the placement of fill into the Waters of the U.S. under Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbor Act. The term "Waters of the U.S." "includes wetlands, special aquatic sites, and other non-wetland waters such as bays, rivers, and lakes. The jurisdictional limit of tidal Waters of the U.S. under Section 10 of the Rivers and Harbor Act is the Mean High-Water line. However, Section 404 of the Federal Clean Water Act extends the jurisdictional limit to the High Tide line. The High Tide Line is the highest elevation of the tide in a normal year, excluding storm events. Wetlands adjacent to the Mean High-Water line or High Tide Line are also under the USACE jurisdiction. For this purpose, the term "Waters of the U.S." is legally defined under Section 404 of the Federal Clean Water Act. It includes seasonal drainages with a defined channel and support wetland species but lacks positive indicators of wetland soils.

Since 2001, the U.S. Supreme Court found in several court rulings that regulation of isolated, intrastate waters by the Army Corps have limited the scope of federal jurisdiction under the Federal Clean Water act and excluded many California wetlands from federal regulation

In December 2019, the U.S. Environmental Protection Agency and the U.S. Army published the final rule to repeal the 2015 Clean Water Rule. The "Clean Water Rule" was designed to clarify what constitutes waters of the U.S., and presumably, to more precisely define and make permitting more predictable, thus less costly and more straightforward.

After several challenges to the "Clean Water Rule," a revised rule became effective on June 22, 2020 but the District court for the District of Colorado stayed the effective date of the Rules, but only in Colorado.

California State Water Resources Control Board



Since 1993, California has had a Wetlands Conservation Policy (a.k.a., the Executive Order W-51 59-93). Commonly referred to as the *No Net Loss Policy* for wetlands, this order establishes a state mandate for developing and adopting a policy framework and strategy to protect the state's wetland ecosystems. The policy was to be implemented voluntarily and was expressly not to be implemented on a "project-by-project" basis (See EO W-59-93, Section III).

In 2020 the newly adopted State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State went into effect. The procedures, most often, are applied through regional water board sign-off (or "c" certification)" of Corps of Engineers wetland permits. The State definition of wetland differs from the Federal definition in a keyway. Specifically, the state definition defines areas as wetlands that have no vegetation if other criteria are met. Wetlands of the State include 1) natural wetlands, 2) wetlands created by modification of a waters of the state (at any point in history), and 3) artificial wetlands that meet specific criteria. Only a few types of waters are exempted from the State definition of waters. Examples of water features excluded from the state's definition include industrial or municipal wastewater, certain types of stormwater treatment facilities, agricultural crop irrigation, industrial processing or cooling, fields flooded for rice growing.

Listed Protected Species and Habitat Protection

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC Section 703-711), Bald and Golden Eagle Protection Act (16 United States Code [USC] Section 668), and Federal Endangered Species Act (FESA; 16 USC § 153 *et seq.*).

The **Migratory Bird Treaty Act (MBTA)** was first enacted in 1916 to protect migratory birds between the United States and Great Britain (acting on behalf of Canada). The MBTA makes it illegal for anyone to take, possess, import, transport, purchase, barter, or offer for sale or purchase any migratory birds, nests, or eggs unless a federal agency has issued a permit. The USFWS has statutory authority and responsibility for enforcing the MBTA. The MBTA was reformed in 2004 to include all species native to the U.S. or its territories, which occur due to natural biological or ecological processes (70 FR 12710, March 15, 2005). The Act does not include non-native species whose occurrences in the U.S. are solely the result of intentional or unintentional human introduction. The USFWS maintains a list of bird species protected under the MCTA and the MBTRA.

In January 2021, the USFWS published a new rule in the Federal Register. Under the rule change, the unintentional killing of migratory birds does not violate the MBTA. Only the intentional “pursuing, hunting, taking, capturing, killing, or attempting to do the same...directed at migratory birds, their nests, or heir eggs” would be illeagle under the changes.



Federal Endangered Species Act prohibits "take" of any federally listed species. "Take" under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. "Candidate species" do not have the full protection of FESA. However, the USFWS advises project applicants that it is prudent to address these species since they could be elevated to "listed status" before completion of projects with long planning or development schedules. "Incidental take" is harm or death that may occur during the implementation of an otherwise lawful activity.

Projects that would result in "take" of any federally-listed threatened or endangered species can obtain authorization from the USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA. The authorization process determines if a project would jeopardize a listed species' continued existence and what mitigation measures would be required to avoid jeopardizing the species.

An Incidental Take Permit or Take Permit is required when an activity would either kill, harm, harass, or interrupt a listed species' breeding or nesting. The ESA definition of "harm" is somewhat less definitive since it includes ubiquitous activities. In 1999 the USFWS published in the Federal Register a clarification of the term "harm" as it applies to the ESA. As stated, the final rule defined the term "harm" to include any act which causes actual harm (kills or injures fish or wildlife) and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

The USFWS cannot require or compel a landowner to obtain an Incidental Take permit, especially under Section 10. On April 25, 2018, the USFWS issued a guidance memorandum intended to help the USFWS' Regional Directors clarify the appropriate trigger for an incidental take permit (ITP) under the Endangered Species Act (ESA). While this guidance was directed internally to USFWS staff to determine whether project-related habitat modification is likely to result in "take" of a listed species, it also provides a tool for project proponents to decide whether to seek an ITP. The guidance emphasizes that the decision to pursue an ITP or whether to cover a species is the project proponent's choice to make and is not up to the USFWS. Further, the guidance recognizes that "the biological, legal and economic risk assessment regarding whether to seek a permit belongs with the private party.

The guidance also clarifies that that habitat modification, in and of itself, does not constitute "take" unless the three components of "harm" are met. Thus, to find that habitat modification constitutes an incidental take of listed species, the following questions must all be answered in the affirmative:

- Is the modification of habitat significant?
- Does that modification also significantly impair an essential behavior pattern of a listed species?
- Is the significant modification of the habitat likely to result in the actual killing or injury of wildlife?



California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is a Trustee Agency and is responsible under CEQA to review and provide recommendations on projects that could impact plant and wildlife resources. Under the Fish and Game Code Section 1802, the CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations. The California Fish and Game Code also provides authority for the CDFW to regulate projects that could result in the "take" of any species listed by the state as threatened or endangered (Section 2081). CDFW also has authority over all state streams, as described below.

Perennial and intermittent streams also fall under the jurisdiction of CDFW according to Sections 1601-1603 of the Fish and Game Code (Streambed Alteration Agreements). CDFW's jurisdictional extent includes work within the stream zone, including the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake. Before issuing a 1601 or 1603 Streambed Alteration Agreement, the CDFW must demonstrate compliance with CEQA. In most cases, CDFW relies on the CEQA review performed by the local lead agency. However, in cases where no CEQA review was required for the project, CDFW would act as the lead agency under CEQA.

The CDFW also has authority for the protection of state-listed species issues under Section 2081 Incidental Take Permit if a project has the potential to negatively affect state-protected plant or animal species or their habitats, either directly or indirectly. Protected species include those "listed" by the state as endangered or threatened. Besides listed species, there are other species protection categories, including "fully protected" and California Species of Special Concern (CSC). Adverse impacts to species that have the "fully protected" designation are prohibited.

Under the California Fish & Game Code (FGC Section 3503), "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird..." "Birds of prey (falcons, hawks, owls, and eagles) get extra protection under the law (FGC Section 3503.5).

As is the case with USFWS, CDFW does not have the authority to require a landowner to apply for an Incidental Take Permit (ITP) authorizing take. Instead, the landowner has the legal obligation to avoid any take of CTS if it does not seek an ITP or to apply for and receive an ITP that authorizes take. That said, CDFW (and USFWS) can initiate an enforcement action if they believe that illegal take has occurred or will occur.

California Endangered Species Act

The California Endangered Species Act (CESA) protects candidate plants and animal species and those listed as rare, threatened, or endangered by the California Department of Fish and Game (CDFG). This Act prohibits the take of any such species unless authorized. Section 2081 authorizes the state to issue incidental take permits. The state definition of taking applies only to acts that result in the death of or adverse impacts to protected species. The CAESA mirrors the federal regulation as it relates to "take"; however, there is no state equivalent definition of "harm" or "harass." Incidental take is also not defined by the CAESA statute or regulation. Unlike the federal



ESA, CAESA does qualify that incidental take "is not prohibited "if it is the result of an act that occurs on a farm or ranch in the course of an otherwise lawful routine and ongoing agricultural activity." Where disagreement occurs (and in some cases, this has been the subject of court cases) is in the common understanding of "routine and ongoing agricultural activity".

California Environmental Quality Act

The CEQA Guidelines require a review of projects to determine their environmental effects and identify mitigation for significant effects. The Guidelines state an effect may be significant if it affects rare and endangered species. Section 15380 of the Guidelines defines *rare* to include listed species and allows agencies to consider rare species other than those designated as State or Federal threatened or endangered, but that meet the standards for rare under the Federal or State endangered species acts. On this basis, plants designated as rare by non-regulatory organizations (e.g., California Native Plant Society), species of special concern as defined by CDFW, candidate species as defined by USFWS, and other designations may need to be considered in CEQA analyses.

Land Use Entitlements

City of Fresno

The Study Area falls within the City of Fresno. The City is responsible for all local land-use decisions within its jurisdictional and CEQA compliance. As the lead agency under CEQA, the City will consider other responsible agencies' recommendations during the CEQA review.



2.0 RESOURCES CONSULTED AND METHODS

The following section describes the methods used to assess the Study Area and includes data review and evaluation, field studies, and aerial photograph interpretations.

2.1 DATA AND LITERATURE REVIEW

These documents and sources were used in preparing this report.

- U.S. Department of Agricultural, Natural Resources Conservation Service, Soil Survey of Fresno Area (Soils mapper).
- Aerial photography (Google Earth®, Bing®, and historic aerials).
- California Department of Fish and Game, California Natural Diversity Database (CNDDDB/RareFind - Recent version with updates)
- U.S. Fish and Wildlife Service National Wetland Inventory Map
- U.S. Geologic Survey, Historic topographic Map, Clovis Quadrangle, 1919, University of Texas, Austin, Perry-Castañeda Map Collection
- Henry Madden Library, Fresno State University. Historical Aerial Photography collection dating back to 1957
- City of Fresno, Bullard Community Plan (City of Fresno, 1998).
- Live Oak Associates, Inc. Tract 5393 (Riverfront Property) Blue Elderberry Assessment, Fresno, California July 2011

2.2 AERIAL PHOTOGRAPHY AND WETLAND MAPPING

A series of historical aerial photographs dating back to the 1950s of the Study Area were reviewed to assess land-use changes over time.

Also reviewed were wetland mapping and the aerials to determine if the Study Area recently supported wetlands.

2.3 FIELD REVIEW(S)

Before conducting a site review, the California Natural Diversity Database/ RareFind (CNDDDB/RareFind) was reviewed to determine the special status species with the greatest likelihood of being present on the site based on the distance of the site from available records, the similarity in habitats between the Study Area, and the habitats that the species required and prefers. The CNDDDB/Rarefind includes records of reported observations for special status plant and animal species and is queried based on a search radius of USGS quadrangle maps. Before conducting the



fieldwork, high-resolution aerials photographs were reviewed to determine if any areas on the site appear to support the U.S. or other water features' waters.

A site was visited on September 30, 2020. The Study Area was walked, and all habitat features mapped. This information was used to evaluate site suitability for species of concern. The steep bluffs base along the San Joaquin River were not accessed and inventoried since these areas would not be disturbed or developed as part of the proposed project.



3.0 RESULTS AND CONCLUSIONS

The following section describes the physical (i.e., topography, drainage, and soils) and the biological resources present or potentially present within the Study Area. Section 3.1 describes the physical components (i.e., land use, soils, vegetation, hydrology, etc.) and the study area's biological components. The physical components strongly influence the types of plants and animals present. This section also describes the habitats present and the specific biological resources observed during the site review.

Section 3.2 presents our findings and any recommended impact avoidance or mitigation.

The information presented is not an exhaustive inventory of plants or animals present. Instead, it is designed to provide sufficient information to identify what biological resources are present that may be considered unique, sensitive, or protected by current law and the potential impacts to those resources if the site is developed.

3.1 PHYSICAL RESOURCES AND ELEMENTS

Climate

The Study Area climate is typical of the central San Joaquin Valley with summers that are long, hot, and dry and winters that are cool and mild. In the winter, rainfall averages approximately 10.9 inches per year, falling mainly between November and April (Western Regional Climate Center, 2004). During the 2019/2020 rainy season (Oct-May), the total rainfall was below average at 8.9 inches, as recorded at Fresno State University, Fresno.

Land Use and Habitat Types

Historic and Current Land Use

The Study Area is made up of two parcels located within the City of Fresno. The Study Area lies within the Bullard Community Plan Area. The existing General Plan land use designation for each of the two parcels is "P.R." (Park & Recreational) for the larger parcel and "P" .I." Public and Institutional for the parcel adjacent to the river. Based on historical aerial photographs, the site has been agricultural or vacant since at least the 1950s (see Appendix A). Since 1998 the Study Area has remained vacant land. In 2009, a portion of the Study Area (east side) appeared to have been used for borrow material since there is a deep borrow pit. Since about 2014, the eastern half of the Study Area was used to stockpile excess materials (illicit dumping). As such, the majority of the east half of the site is disturbed. The western half, although previously disturbed historically, is currently vacant, fallow agricultural land. There are no structures within the Study Area except for the PG&G transmission lines.

The San Joaquin River lies along the northern boundary. The 1998 Bullard Community Plan described the bluffs along the river as follows:



"The San Joaquin Riverbottom and Bluffs are recognized as a unique area of scenic beauty and topographic variation in the characteristically flat San Joaquin Valley. The area is a sensitive environment hosting a diversity of wildlife, fish, and plant species and contains the last remnants of a true riparian environment. The river bottom contains significant sand and gravel resources, prime agricultural lands, and is a source of groundwater recharge. The river bottom and bluffs present a substantial safety hazard to urban level development in terms of potential for flooding in the river bottom, increased fire danger, and the potential for erosion and landslides on the bluffs...."

The adjacent land uses include urban/residential area (immediately east), rural residential further south, and to the west, industrial and other uses. The Fresno County Sheriff's Department has a gun range on the San Joaquin River's south bank adjacent to the Highway 99 overpass. Pacific Gas and Electric have an electrical substation (Herndon Substation) located immediately west of the Study Area on the south side of the river off of Weber Avenue. PG&E also has a transmission 75-foot wide easement for a 115 kV electric line on the Study Area's southwest portion. There is another 50' wide PG&E easement and electric line in the northwest corner.

Habitats

The Study Area is composed of several habitat types (Figure 2). The toe of the bluff has a dense riparian canopy along the San Joaquin River. The bluff is exceptionally steep (nearly a 1:1 slope). The project boundary (and Study Area) extends only to the top of the bluff (top of bank). The habitat along the bluff area's top edge is riparian, but only a few mature trees along the river bluff. The understory is composed of non-native grasses. The topography along the top-of-bank varies.

Riparian habitat provides important habitat for many species. The vegetated banks provide nesting, cover, foraging habitat, and is used as a movement corridor for wildlife.

South of the bluff, the habitat includes non-native grassland/disturbed and ruderal habitat. The non-native grassland/disturbed supports common upland species (*Avena fatua*, *brodiaum hordeaseus*, *erodium cicutarium*, *Bromus diandrus*, etc.) common to fallow agricultural land/disturbed areas. The ruderal habitat covers the eastern half of the Study Area previously used for borrow material and used to stockpile dirt. These areas support a dense ground squirrel population because of the prevalence of friable materials but otherwise limited wildlife habitat. One coyote was observed in the Study Area (southwest corner). The dirt piles appear to receive frequent use by kids on dirt bikes. The large borrow area forms a basin, but there is no evidence of any wetland habitat formed in the bottom of the basin. This area appears to be frequently used by kids on bikes. There are numerous piles of garbage within this area from illicit dumping.



HABITAT MAP

PROJECT: Tract No.6195 (APN 504-050-02, 504-130-12 &504-130-X1)
 PROJECT LOCATION: Part of Section 32, T. 12S., R.19E., Mount Diablo Base and Meridian
 Fresno County, California,

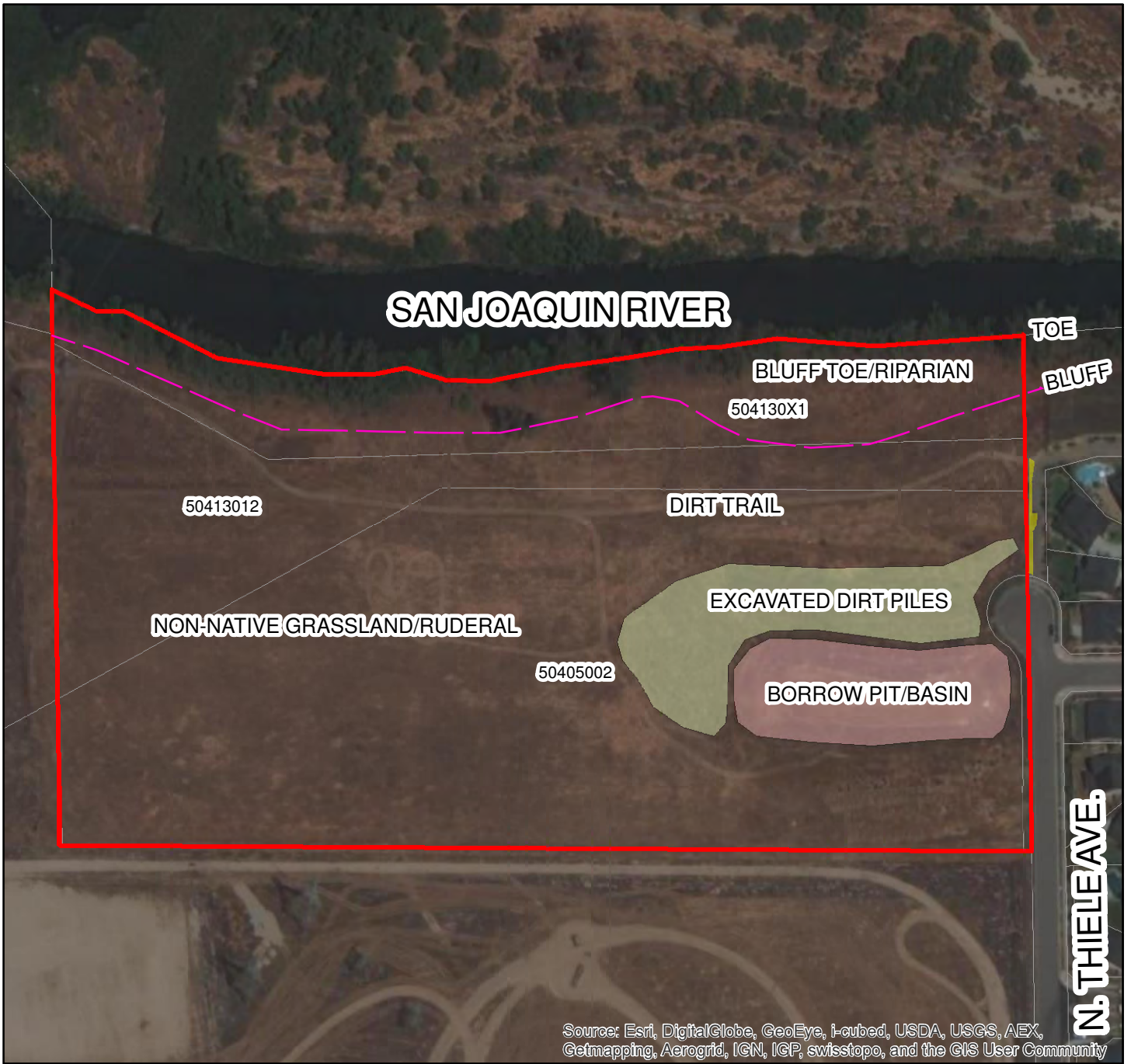
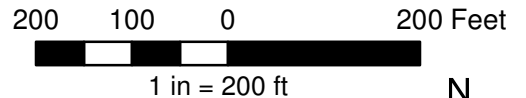


Figure 2 - Habitat Map



Legend

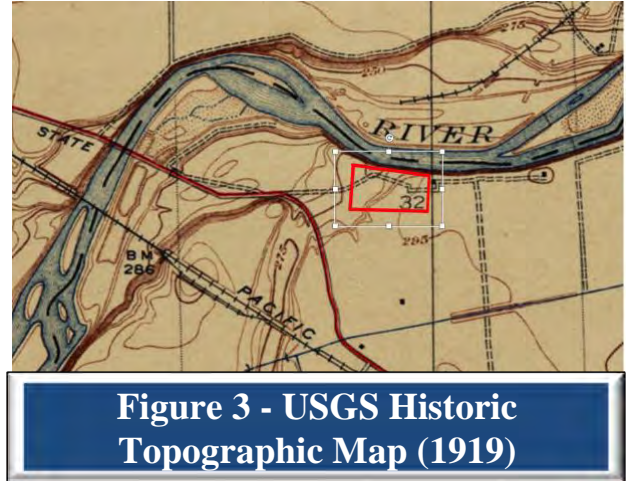
- APPROXIMATE BOUNDARY TM6195 (19.89 AC.)
- LANDSCAPED
- DIRT_PILES
- BASIN
- BLUFF



The only other wildlife observed were several species of birds, namely mourning dove, one red-tail hawk in flight, and two starlings.

Site Topography

The property (roughly outlined in red, right) in the historic (1919) topographic map (Figure 3) is nearly flat, remaining around 295 feet above sea level throughout the site. The site topography remains unchanged since 1919 except for small changes to the topography from removal/stockpile of dirt piles on the eastern half of the site.



Drainage and Waters/Wetlands

Drainage

The Study Area lies within the Upper Dry Watershed (HUC 18030009), sub-shed Scout Island-San Joaquin River HUC (180400010303). This watershed lies along the north and south side of the San Joaquin River from the Highway 99 overpass on the river, upstream past the Highway 41 overpass. This reach is listed as impaired for drinking water, aquatic life, recreation, fisheries, etc. Historically the Study Area drained toward the San Joaquin River.

Waters/Wetland

A query of the National Wetland Inventory (NWI) Map (Figure 4) does not show any mapped waters/wetland within the Study Area. The San Joaquin River is mapped as Riverine habitat with pockets of other wetland habitats along the river (primarily on the river's north side). This information comports with the historical topographic map (Figure 3) that does not show any mapped streams within the Study Area or adjacent parcels. The San Joaquin River is considered both waters of the U.S. and waters of the State.



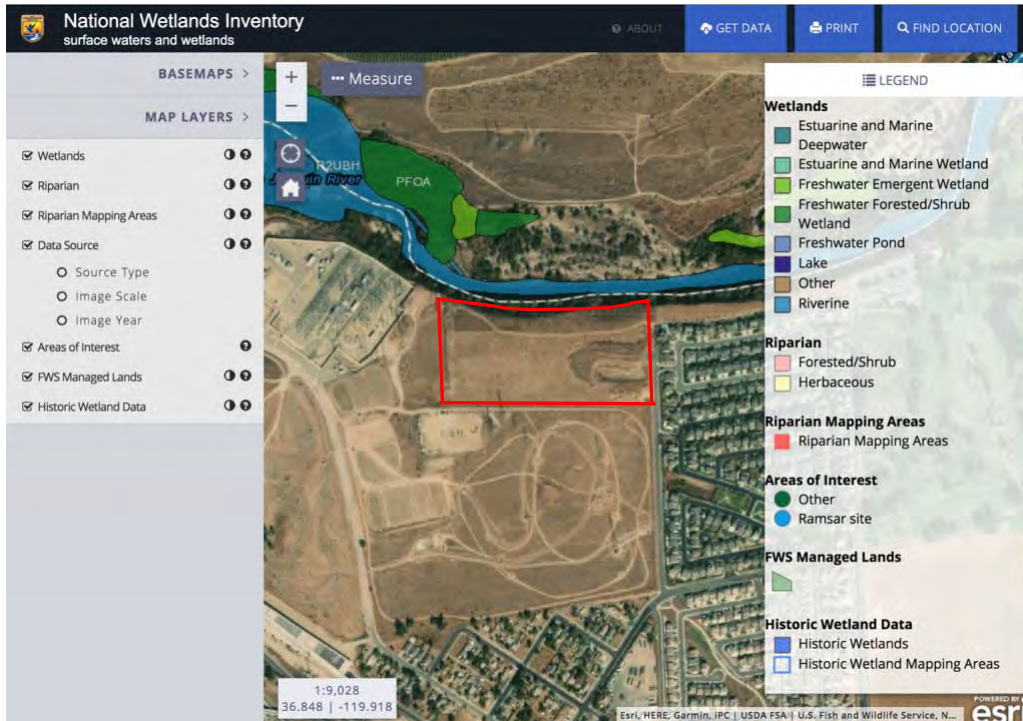


Figure 4 - U.S. Fish and Wildlife Service National Wetland Inventory Map

Soils

The Natural Resources Conservation Service (NRCS) soil survey mapped two soil types within the Study Area. None of the soils are mapped as hydric. Hydric soil is readily formed under ponded conditions and is a strong indicator of hydric soils experiencing prolonged ponding (e.g., wetlands). The presence of mapped hydric soils may indicate that the soils could support wetlands, but there is no direct correlation. Wetlands can occur in areas where no hydric soil is mapped and may be absent in areas mapped as hydric soils. Both soil types are well-drained.

**Table 1
NRCS Soils Tract 6195**

Map Unit Symbol	Map Unit Name	Hydric		Percent of Area of Interest
		Yes	No	
Ho	Hanford fine sandy loam, silty substratum	y	✓	97%
PnC	Pollansky fine sandy loam 9 to 15 % slopes		✓	3%



Special Status Species

A search of the California Natural Diversity Database (CNDDDB) and the U.S. Fish and Wildlife IPAC databases were reviewed to determine which special status species could be present within the Study Area. There is no critical habitat for any listed species within or in the vicinity of the Study Area. Figure 5 shows the nearest records of recorded species. Table 2 summarizes the species identified in the CNDDDB and by the U.S. Fish and Wildlife Service that would have the highest likelihood of being present based on habitat requirements.

Birds:

Swainson's hawk could use the site for foraging. Except for several large mature trees near the top of the bluff, the study is devoid of potential nesting habitat (trees and shrubs). No raptor nests (active or old nests) were found in the large trees, but this does not preclude future nesting in these trees.

The site supports suitable habitat for the ground-nesting burrowing owl. **Burrowing owl** rely on ground burrowing mammals for nesting cavities (such as ground squirrels). No CNDDDB records for the species within or near the Study Area exist, but that doesn't rule out possible occupation. Although no evidence of current occupation was observed, the species could nest during the next nesting period given there is suitable habitat.

Mammals and other Species:

The Study Area appears only to support potential suitable for one species, **American badger**. The species requires friable soils to create dens. No evidence of current occupation was observed, but this does not preclude occupation in the future.

San Joaquin kit fox could forage within the Study Area. Still, because of the recurring disturbance and proximity to adjacent residential areas (and pets) and the presence of coyote, it is unlikely the species would reside on the site. There were no dens present within the Study Area at the time of the field review.

San Joaquin pocket mouse has no Federal or State listing status. The species occurs within the Central Valley and portions of the foothills. The species was previously identified on the CDFW List of Concern (Third Priority) but was removed. It is considered a sensitive species and has the current designation of S2: Imperiled – At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors and S3: Vulnerable – At moderate risk of extirpation in the state due to a somewhat restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors (CDFW 2020). The species prefers sandy habitat (wind drift) at the top of ridges. The recorded species was found in 1924.

Valley elderberry longhorn beetle is associated with blue elderberry shrubs. No host plants are located within the development area of Tract 6195, but some shrubs may be found on the bluff



face along the San Joaquin River. The species is federally listed as Threatened, but the U.S. Fish and Wildlife Service has determined that the species' range does not include Fresno and Madera Counties.¹ Numerous elderberry shrubs were found in 2011 on the adjacent parcel, Tract 5359 (to the east). However, in 2016 the project biologist confirmed with the USFWS that no impacts to VELB would occur since USFW determined that the species does not occur in any elderberry bushes that may be present..² The USFWS does not require consultation for VELB in Fresno or Madera Counties.

¹ 79 FR 55874. September 17, 2014. Endangered and Threatened Wildlife Plants; Withdrawl of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife Proposed rule; withdrawl. U.S. Fish and Wildlife Service, Department of the Interior.

² D. Haertesveldt, Live Oak Associates. (Personal communication November 7, 2016)



FIGURE 5- CNDDDB Bios Tract 6195



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, BDB

California Natural Diversity Database (CNDDDB) Commercial [ds85]

- | | | | | | | | |
|--|----------------------|--|----------------------------------|--|------------------------------|--|----------------------------------|
| | Plant (80m) | | Animal (non-specific) | | Aquatic Comm. (80m) | | Multiple (circular) |
| | Plant (specific) | | Animal (circular) | | Aquatic Comm. (specific) | | Sensitive EO's (Commercial only) |
| | Plant (non-specific) | | Terrestrial Comm. (80m) | | Aquatic Comm. (non-specific) | | |
| | Plant (circular) | | Terrestrial Comm. (specific) | | Aquatic Comm. (circular) | | |
| | Animal (80m) | | Terrestrial Comm. (non-specific) | | Multiple (80m) | | |
| | Animal (specific) | | Terrestrial Comm. (circular) | | Multiple (specific) | | |
| | | | | | Multiple (non-specific) | | |

Table 2
Special Status Species Summary For the Study Area
Tract 6195

<i>Common Name</i>	<i>Scientific Name</i>	<i>Status</i> ¹	<i>Effects</i> ²	<i>Occurrence in the Study Area</i> ³
Birds				
Swainson's hawk	<i>Buteo swainsoni</i>	C.T.	NA	Absent. No raptor nests were observed. Species may use the site for foraging.
Burrowing owl	<i>Athene cunicularia</i>	BCC	MA	Likely Absent. Some suitable habitat present within the study area (suitable ground cover and prey base. No evidence of occupation was observed but could not rule out occupation.
Mammals & Other Wildlife				
San Joaquin pocket mouse	<i>Perognathus inornatus</i>	--, --	NA	Absent. Species require a land surface with hummocks as sites for its extensive but shallow burrow system and a suitable compactness substrate to permit burrowing. Record from 1924 and located four miles southwest. No evidence to support species potentially present.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	CT, FE	NA	Absent. Record from 1993 when one (dead) kit fox was found adjacent to Highway 99 south of the Study Area. Although potential prey base may be present, the frequent disturbance from humans (kids, dogs, etc., from the adjacent neighborhood) likely precludes occupation. No potential denning sites were observed during the field review. Species could occasionally forage on the site
American badger	<i>Taxidea taxus</i>	--/--	MA	Absent. Some suitable habitat
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	--/F.T.	NA	Absent. No host plants present within the Study Area of disturbance. The host plant could occupy the habitats at the base of the bluff outside the Study Area. The species range does not include Fresno and Madera Counties.
Plants				
Hairy Ocutt grass	<i>Ocuttia pilosa</i>	C.E., F.E.	NA	Absent. Found in Valley grassland habitat. The study area does not support grassland habitat. Habitat appears to be routinely disturbed by (ag, dumping, dirt bikes)



1 Status= Listing of special status species, unless otherwise indicated

CE: California listed as Endangered

CT: California listed as Threatened

FE: Federally listed as Endangered

FT: Federally listed as Threatened

2 Effects = Effect determination

NA: No Affect

NL: Not likely to Affect

MA: May Affect, not likely to adversely affect

3 Definition Of Occurrence Indicators

Present/Potentially: Species recorded in the area

Absent/Likely Absent: Species not recorded in the study area and

CNDDDB = California Natural Diversity Database provided by CDFG



3.2 IMPACT ANALYSIS

Evaluation of the proposed site development based on the California Environmental Quality Act environmental factors for biological resources is provided below.

a. 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 Game or U.S. Fish and Wildlife Service?

The Study Area is highly disturbed non-native grassland/disturbed habitat and conversion of the habitat would not result in any impacts to special status species. However, although not currently present the Study Area could support burrowing owl nesting (ground nesting raptor) and American badger prior to site development. There is no evidence of occupation by San Joaquin kit fox but the species could establish a den before the site is developed.

Implementation of the following measures are recommended to avoid and minimize any potential impact on special status species during construction.

- If construction is initiated during the nesting season, conduct a pre-construction survey for active raptor nests along the top of bank (there are no other trees on the site). If any active raptor nest is encountered, then a buffer zone should be established (based on the biologist recommendations) and monitoring performed to watch for potential nest abandonment. If the nesting pair shows signs of pending nest abandonment, then the biologist must consult with the CDFW to determine what further actions are needed to prevent abandonment.
- If possible, construction/grading should begin between September – January to avoid starting construction during the nesting period.
- No more than 30 days prior to construction, a biologist should inspect the site to determine whether burrowing owl, American badger, or San Joaquin kit fox have taken up residence. Consultation with the appropriate regulatory agencies (USFWS/CDFW) should be initiated if any of these species are found on the site.
- At the start of construction, the work crew should be educated on the potential for special status species to be encountered. The training should include species information (burrowing owl, San Joaquin kit fox, American badger) and avoidance and protection measures to be taken if encountered.



b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The Proposed Project includes a setback from the riparian bluff located at the east side of the Study Area along the San Joaquin River. No development is proposed within the setback, therefore there is no potential impact on riparian habitat. There is no other sensitive natural communities located within or near the Study Area in local, regional plans and there is no designated sensitive habitat identified by the CDFW or USFWS.

As a precautionary measures the following measures is recommended to ensure the riparian habitat is not disturbed during construction.

- Prior to any ground disturbance, bright orange fencing should be installed along the riparian bluff (top of bank) to keep any construction activities (equipment staging, parking, laydown of materials) from encroaching into the riparian/bluff zone.

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

There are no federally or state jurisdictional wetlands or drainages within the the Study Area. The Proposed Project would not impact federally protected wetlands.

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?

The Study Area does not support any established migratory or movement corridor for wildlife. The bluff area along the San Joaquin River is likely used for wildlife movement along the river but this area would not be impacted by the Proposed Project. No impact to wildlife movement would occur. The proposed development includes a riparian setback from the bluff area.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Buildout of the Proposed Project would not impact any biological resources protect by local policies or ordinances. The only trees within the Study Area are along the river bluff and those trees will be preserved within an established development setback.



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?

The Study Area is not within any adopted conservation plan or local or regional conservation plan. Buildout of the Proposed Project would not conflict with any established or adopted plan.



Historical Aerial Photographs

Prepared by: Argonaut Ecological, Inc.

Location: Tract 6195, City of Fresno



Aerial Photograph - 1950



Aerial Photograph - 1965

Historical Aerial Photographs

Prepared by: Argonaut Ecological, Inc.

Location: Tract 6195, City of Fresno



Aerial Photograph - 1977



Aerial Photograph - 1998



Photographic Documentation

Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 1: View Looking North from the north end of N. Theil Avenue. Photos show piles of stockpiles of dirt.



Photographic Documentation

Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 2: Take from the same position as Photo 1 but looking west across the Study Area. Large piles of debris and recent grass fire. The borrow pit is located immediately to the left of this photo.



Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 3: View of the borrow pit looking to the east toward Theil Avenue.



Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 4: View of the site taken from just north of the borrow pit. Transmission lines that cross the southwest corner of the Study Area are visible.



Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 5: View of the eastern edge of Study Area looking to the south. Landscape habitat visible on the left, and soil dirt piles/mounds visible to the south.



Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 6: Close up view of dirt piles with ground squirrel burrows.



Photographic Documentation

Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 7: View looking north toward the San Joaquin River bluff.



Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 8: View of San Joaquin River from the bluff's edge looking down the slope at trees along the bank.



Photographic Documentation

Client: Benchmark Communities, Inc
Location: Fresno, CA
Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.
Photographer K. Kinsland



Photo 9: View along the top of the bluff looking east.



Client: Benchmark Communities, Inc

Location: Fresno, CA

Photograph Date: 09/30/2020

Prepared by: Argonaut Ecological, Inc.

Photographer K. Kinsland



Photo 10: View along the northern edge of Study Area looking west toward PG&E substation

Appendix B

Cultural Resource Assessment for the Tract 6195, Tapestry III Project Area, City of Fresno, California

**CULTURAL RESOURCE ASSESSMENT FOR THE
TRACT 6195, TAPESTRY III PROJECT AREA,
CITY OF FRESNO, CALIFORNIA**

Prepared by

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Prepared for

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November 19, 2018
(Job #18-100)

INTRODUCTION

The proposed undertaking involves a traditional non-gated residential subdivision of a project area within the City of Fresno, California. The project will involve the development of 89 single-family residences on a 17.8-acre tract, located west of North Thiele Avenue and is bounded on the north by the San Joaquin River.

The project area is located in section 32, Township 12 South, Range 19 East, mapped on the Herndon USGS topographic quadrangle (Figures 1, 2 and 3).

Melinda A. Peak, senior historian/archeologist with Peak & Associates, Inc. served as principal investigator for the study with Michael Lawson (resumes, Appendix 1) completing the field survey.

STATE REGULATIONS

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA Section 15064.5 requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. Public Resources Code Section 21098.1 further cites: A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

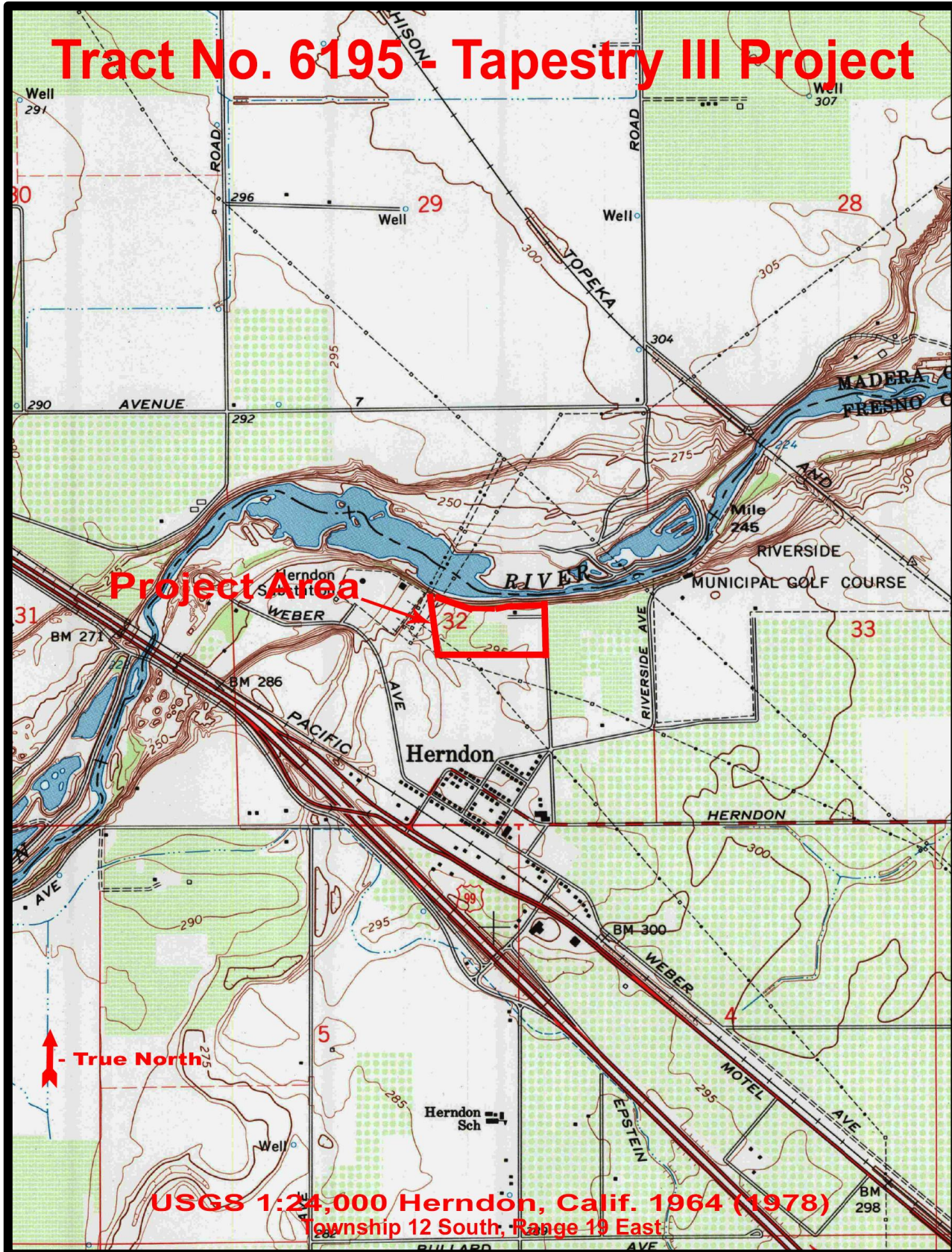
An “historical resource” includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (Public Resources Code section 5020.1).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor’s Office of Planning and Research (OPR), *CEQA and Archaeological Resources*, 1994. The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code Section 7050.5, California Public Resources Codes Sections 5097.94 et al).

The California Register of Historical Resources (Public Resources Code Section 5020 et seq.)

The State Historic Preservation Office (SHPO) maintains the California Register of Historical Resources (CRHR). Properties listed, or formally designated as eligible for listing, on the National

Tract No. 6195 - Tapestry III Project



USGS 1:24,000 Herndon, Calif. 1964 (1978)
Township 12 South, Range 19 East

Figure 1

Tract No. 6195 - Tapestry III Project

Project Area

N Thiele Ave

© 2018 Google

Figure 3



Register of Historic Places are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

For the purposes of CEQA, an historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources. When a project will impact a site, it needs to be determined whether the site is an historical resource. The criteria are set forth in Section 15064.5(a) (3) of the CEQA Guidelines, and are defined as any resource that does any of the following:

- A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- B. Is associated with the lives of persons important in our past;
- C. 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; or
- D. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the CEQA Guidelines, Section 15064.5(a) (4) states:

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code section 5020.1(j) or 5024.1.

California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

California Public Resources Code Section 15064.5(e)

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project and establishes the Native American Heritage Commission as the entity responsible to resolve disputes regarding the disposition of such remains.

Assembly Bill 52

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts. AB 52 defines a “California Native American Tribe” as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that consultation address project alternatives, mitigation measures, for significant effects, if requested by the California Native American Tribe, and that consultation be considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached. Under AB 52, such measures shall be recommended for inclusion in the environmental document and adopted mitigation monitoring program if determined to avoid or lessen a significant impact on a tribal cultural resource.

CULTURAL SETTING

Archeology

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data, but the emphasis has been in the northern portion of the valley. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmill site (CA-SAC-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

In the southern San Joaquin Valley, with the exception of Hewes’s excavation at CA-FRE-48 (the Tranquility Site), the foci of early investigations have been the old shorelines of the interior lakes; Tulare, Kern, and Buena Vista. In 1899, Dr. P. M. Jones directed fieldwork in the Buena Vista-Tulare Lake area of Kern County. Jones investigated 150 mounds and conducted trenching of several sites including CA-KER-53. In 1909, N. C. Nelson investigated prehistoric Site CA-KER-49, which is located to the west of Buena Vista Lake. Later, four surveys and excavations were

conducted in the same locale under the auspices of the University of California. A compilation of these investigation results was published in 1926 by Gifford and Schenck.

As a result of this early work, an elaborate culture complex was defined for the late prehistoric period. This complex can be ascribed probably to the Yokuts and their direct ancestors. The material culture of this late temporal period complex included steatite vessels and beads, finely-made projectile points, pottery, shaped stone mortars, *Tivela* disc beads, use of asphaltum, and the presence of metates and manos. Flexed burials were the predominant interment mode. Earlier complexes underlying the late cultural expressions were represented by chipped stone crescents, large projectile points, atlatl spurs, and weights. Mortuary practices, generally thought to be related, include extended rather than flexed burial position, a situation analogous to that of the northern valley (Gifford and Schenck 1926; Lillard, Heizer, and Fenenga 1939; Moratto 1972).

Presence of “Early Man,” although not found in direct association with extinct animals, is demonstrated by the frequency of chipped stone crescents and fluted points similar to those of the Clovis-Folsom Complex in the American Southwest. Although fluted points have been found near the shores of Tulare Lake, an area that has also produced surface finds of extinct mammal bone of Pleistocene age, the association is not substantiated by controlled excavations and remains speculative (Riddell and Olsen 1969). Most of the point collection had been acquired by D. Witt over a period of 30 years.

Under the direction of Wedel (1941), the Civil Works Administration, in conjunction with the Smithsonian Institution, initiated the first major excavations using stratigraphic controls. Investigations of CA-KER-39 and CA-KER-60 as well as several smaller sites near Buena Vista Lake produced evidence of two distinct cultural entities or occupation periods. Wedel lacked methods for dating these two entities by cross-comparison of the assemblages, he tentatively stated that the early occupation at Buena Vista Lake appeared to be temporally older and less developed than the Early Horizon (Windmill Pattern) of the Delta region. He compared this early component to the Oak Grove or Milling Stone culture of the Santa Barbara area (Rogers 1939). He divided the later cultural entity into two distinct phases, both clearly distinguished from the earlier cultural phase by artifact types. Wedel (1941:144-145) estimated that neither of these cultural periods exceeded 1500 B.P. (years Before the Present). Later, other investigators proposed far earlier ages for these early occupations, with dates ranging from 2000 to 7000 B.P. (Baumhoff and Olmstead 1963, 1964; Heizer 1964; Meighan 1959).

Later investigations in 1963 and 1964 at CA-KER-116 near Buena Vista Lake produced materials similar to Wedel’s early occupation. These materials occurred in the lower levels of the “upper deposit,” while an even deeper cultural deposit yielded materials similar to those of the San Dieguito Complex. Artifacts included a chipped stone crescent, crude point fragments, and an atlatl spur. Radiocarbon age determinations on shell from the lowest cultural levels returned a date of circa 8200 B.P. (Fredrickson and Grossman 1966, 1977; Fredrickson 1967).

Despite the previously mentioned investigations, the prehistory of the southern San Joaquin remains as yet poorly understood, without a tightly defined chronological sequence of cultural development.

Ethnology

Ethnographic literature is often uncertain in definition of cultural boundaries for Indian groups. Early displacement by white intrusion resulted in population shifts to avoid conflict with the Spanish, and later with the miners and settlers. The ravages of disease and warfare decimated the native people, further weakening cultural identity. Informants were often uncertain of original territories of the various tribal groupings.

The Foothill Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Foothill Yokuts were a group of about 15 named tribes who occupied the western Sierra Nevada foothills from the Fresno River to the Kern River. A further subdivision separated the groups into northern, central and southern groups. The area controlled by individual groups varied over time. There is no information to indicate that there was a village in the project vicinity, but this does not preclude the possibility.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs which formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925). The housepit depressions ranged in diameter from between 3 to 18 meters.

Latta (1949:99) reported that a village of 200 to 300 Yokuts might have four or five large houses that were used for ten or twelve years or until a family member died, at which time the Indians burned the house in which the death had occurred. If a sick or aged person died outside the dwelling, the family did not burn the house. When a Northern Yokuts died, his body was cremated or buried in a flexed position. Southern tribes normally buried their dead, although they did

cremate shamans, persons who died away from their village and, among the Tachi, persons of great importance.

The Yokuts experienced severe depopulation after contact with the Spanish and subsequent explores. The most devastating impacts of the Spanish colonization effort were not the result of military conflicts, but came from Old World diseases newly introduced to the native people.

Historical Context

Early Explorations

The early recorded inhabitants of the region were members of the Yokuts tribe. Although the Spanish missions were established closer to the Pacific coast between 1769 and 1817, the general project area was first visited in the early 1800s by Spanish explorers, who visited the San Joaquin Valley with three goals: to search for runaway neophytes from the missions in the coastal regions, to punish the Indian raiders, and to select sites for new missions. In 1806, a group led by Gabriel Moraga and Father Pedro Muñoz, left Mission San Juan Bautista heading north to about the Mokelumne River. They then turned south, and travelled along the edge of the mountains crossing the San Joaquin River and passing through Tejon Pass, arriving at Mission San Fernando. In 1815, José Dolores Pico marched an expedition group from Monterey into the region. Following the San Joaquin River, he passed through the area in search of runaways, traveling as far south as the Kern River. The expedition returned to the starting point in Monterey with nine prisoners and a number of horses.

After control of California passed from Spain to Mexico in 1822, Mexican explorations into the interior continued, with José Dolores Pico conducting a major expedition along the San Joaquin River in 1825-1826. This expedition was considered successful in that some neophytes were captured, hostile Indians killed, some of the tribal groups intimidated, and some stolen horses recovered. In 1828, Sebastián Rodríguez led a similar expedition into the same region. His expedition captured a number of neophytes as well as some of the stolen horses, an item that had become an important dietary staple for the Indian tribes in the San Joaquin Valley region (Beck and Haase 1974).

The expeditions did not leave physical evidence, but there were definitely effects to the Native American populations. Causing even more of an effect on the native population were the diseases brought in to the Native populations of the Central Valley in the early 1830s.

Ranchos

In Fresno County, there was only one early land grant, a rancho along the current southern border of the county: Laguna de Tache. The era of the Spanish and Mexican land grants did not directly affect the project area.

Herndon

The origins of historic period land use in the Herndon area was the establishment of landing point named “Sycamore.” The landing point served as the head of navigation for steamboats on the San Joaquin River. Steamboats landed here with supplies that were then hauled to Fort Miller and later the town of Millerton. There was also a ferry for crossing the river here from the 1860s to the 1880s.

The extension of the railroad system throughout the San Joaquin Valley allowed for the increased expansion of a market for the agricultural production of the region. A branch line of the Southern Pacific Railroad (first known as the Pollasky Railroad or the San Joaquin Railroad) was built through this region circa 1892, with a river crossing near the project area. The railroad abandoned the plan to lay out a townsite on the south side of the San Joaquin, and instead chose the site of Fresno (Gudde 1969).

The first post office, established in September 1872, was called “Palo Blanco.” The post office lasted a year, with the failure of a local irrigation project limiting the growth of the town. The community of Herndon had a post office established a few years late in 1887. This post office, named Herndon, lasted six years, and then transferred to Fresno, with a re-opening in 1907 (Frickstad 1955).

The early use of land in the region was for cultivation of wheat. Improvements such as the development of the railroad, allowed marketing of more perishable crops, and irrigation canals, providing a steady source of water year-round, also encouraged the growth of crops such as grapes.

The Project Area

A review of early maps of the area has been conducted. The 1891 map of the area from the Thompson historical atlas of Fresno County shows the location of Herndon to the south of the project area, and the roadway’s river crossing upstream from the railroad bridge. At that date, E. Judson is shown as the owner of the project area, and no buildings or other features are shown within the project boundaries.

In 1907, the land is the western part of the holdings in the area of the German Savings and Loan Society.

By 1923, the land belonged to brothers Murray J. and Chester McPhee, who had emigrated to the United States from Nova Scotia in 1908. In 1920, the brothers lived with Chester’s wife, Linnie, in the Herndon vicinity (Federal census 1910, 1920). The property they owned including the project area was accessed from the south with a road from Herndon. Their parcel was actually larger, extending to the west of the current project area.

The McPhee residence stood within the project area at the location of the building symbol (Herndon USGS 1:31680 USGS topographic map). Chester McPhee, who worked as a farmer, with his wife continued to live on the property until at least the 1940s, and possibly as late as 1967, the year both McPhees died.

RESEARCH

A record search was conducted for the project area through the Southern San Joaquin Valley Archaeological Information Center of the California Historical Resources Information System on October 29, 2018 (RS#18-438, Appendix 2). The northern portion of the project area had been surveyed by Dudley Varner in 2005 (Report #FR-2112), with negative findings. Several other surveys have been conducted in the project area vicinity.

No sites have been recorded in the project area. To the west and northwest, within the 0.125-mile radius, the Herndon Substation (P-10-005914) and a transmission line segment (P-20-003106) in Madera County have been recorded by Applied Earthworks staff members.

FIELD ASSESSMENT

Michael Lawson conducted a field survey of the project area on November 7, 2018, using complete inspection (Figure 4). The project area is partially leveled and graded, with some natural slopes remaining. Plowing had occurred fairly recently.

Due to the close proximity to a sizable water source with dense riparian zones, the survey technique included close parallel transects of no more than five meters with occasional overlapping lanes. Closer scrutiny was also given to areas of rodent burrowing activity.

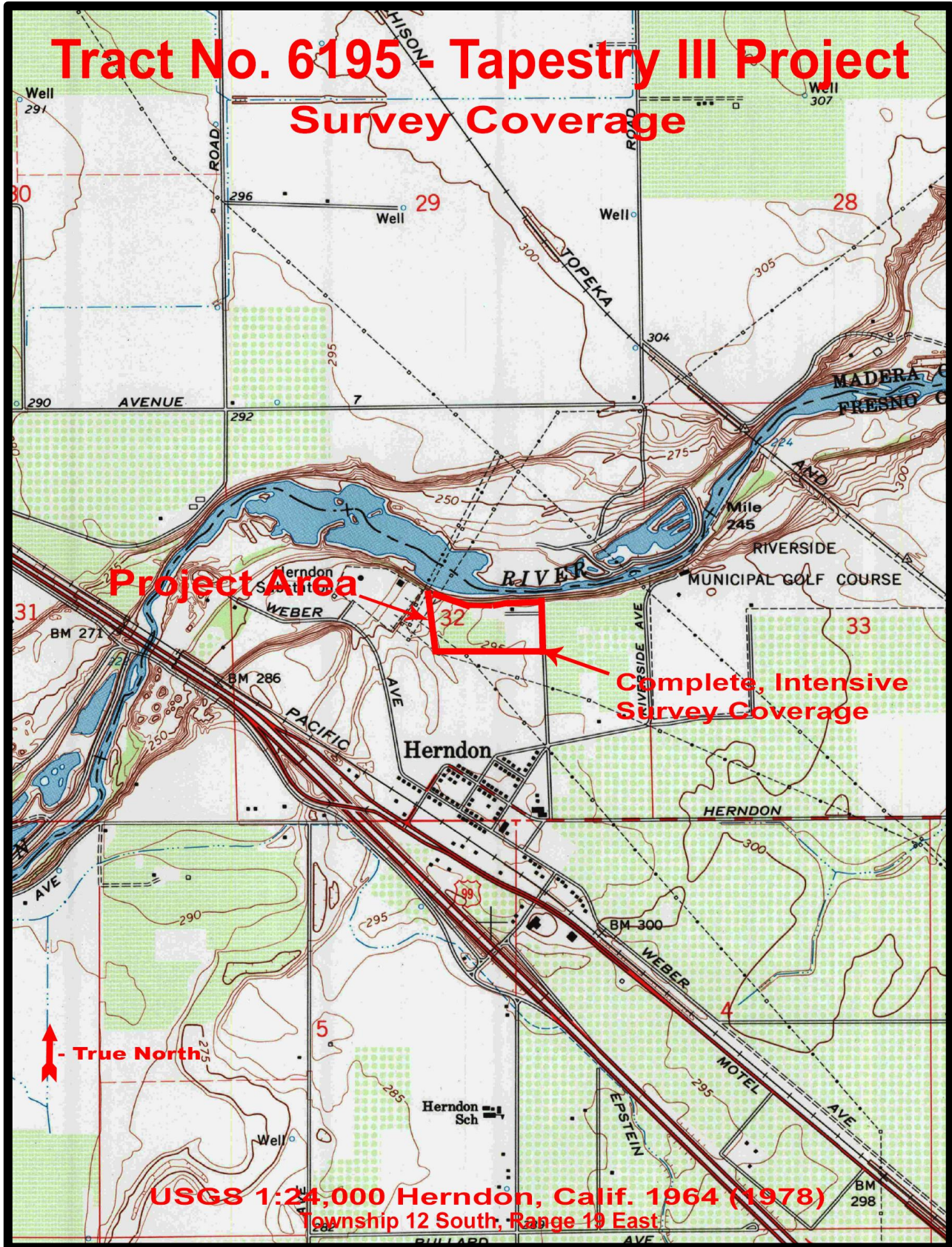
The visibility of ground was excellent, partly due to recent plowing but also the result of heavy rodent disturbance resulting in large mounds of mixed soil. The soil components were noted as fine silt, with little or no sand, gravels or other stone, consistently light tan in color throughout the acreage.

Modern dumping and other activities have introduced manufactured road base gravel, concrete, and broken cobbles, but no rock showed evidence or characteristics of prehistoric modification or use-wear.

Throughout the parcel, debris piles and scattered refuse from dumping is present, with all materials appearing to be modern household waste. In the east end of the project area, several piles of dumped soil and sand are present. Although lumber, concrete, steel and plastic pipes were observed throughout the property, no evidence of historic occupation or the older dwelling was noted. Apparently, demolition of the residence was very complete in nature.

There is no surface evidence of prehistoric period or historic period cultural resources within the project area.

Tract No. 6195 - Tapestry III Project Survey Coverage



USGS 1:24,000 Herndon, Calif. 1964 (1978)
Township 12 South, Range 19 East

Figure 4

RECOMMENDATIONS

Although no prehistoric sites were found during the survey, there is a slight possibility that a site may exist and be totally obscured by vegetation, fill, or other historic activities, leaving no surface evidence. Should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, an archeologist should be consulted for on-the-spot evaluation of the finding.

Discovery of Human Remains

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains until the Fresno County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

If the Fresno County Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).

After notification, the NAHC will follow the procedures outlined in Public Resources Code Section 5097.98, that include notification of most likely descendants (MLDs), and recommendations for treatment of the remains. The MLDs will have 24 hours after notification by the NAHC to make their recommendations (PRC Section 5097.98).

REFERENCES

Baumhoff, Martin A.

- 1963 Ecological Determinants of Aboriginal California Populations. *University of California Publications in American Archaeology and Ethnology* 49(2): 155-236. Berkeley.

Baumhoff, Martin A., and David Olmsted

- 1963 Radiocarbon support for Glottochronology. *American Anthropologist* 65(2): 278-284.
- 1964 Notes on Palaihnihan culture history: glottochronology and archaeology. Studies in California linguistics, edited by William Bright, pp. 1-12. *University of California Publications in Linguistics* 34. Berkeley.

Beardsley, Richard K.

- 1954 Temporal and Areal Relationships in Central California Archeology (parts 1 and 2). *University of California Archaeological Survey Reports* 24, 25. Berkeley.

Beck, Warren A. and Ynez D. Haase

- 1974 *Historical Atlas of California*. University of Oklahoma Press, Norman.

Clough, Charles W. and William B. Secrest, Jr.

- 1984 *Fresno County—The Pioneer Years: From the Beginning to 1900*. Panorama West Books, Fresno.

Cook, Sherburne F.

- 1960 Colonial expeditions to the interior of California: Central Valley 1800-1820. *University of California Anthropological Records* 16(6): 239-292. Berkeley.
- 1955a The Aboriginal Populations of the San Joaquin Valley, California. *University of California Press Anthropological Records* 16(2). Berkeley.
- 1955b The epidemic of 1830-33 in California and Oregon. *University of California Publications in American Archaeology and Ethnology* 43(3): 303-326. Berkeley.

Davis, James T.

- 1961 Trade Routes and Economic Exchange among the Indians of California. *University of California Archaeological Survey Reports* 54:1-71. Berkeley.

Elliott, Wallace W.

- 1882 *History of Fresno County, California with Illustrations*. Wallace W. Elliott & Company, Publishers, San Francisco.

- Fickewirth, Alvin A.
1992 *California Railroads*. Golden West Books. San Marino, CA.
- Fredrickson, David A.
1967 Additional C-14 dates for water resources investigations at Buena Vista Lake. *Society for California Archaeology Newsletter* 1(5).
- Frickstad, Walter
1955 *A Century of California Post Offices*. Pacific Rotapress Printing Company, Oakland.
- Fredrickson, David A., and J. Grossman
1966 Radiocarbon Dating of an Early Site at Buena Vista Lake, California. Paper read before the annual meeting of the Society for American Archaeology, Reno.
1977 A San Dieguito Component at Buena Vista Lake, California. *The Journal of California Anthropology* 4(2): 173-190.
- Gates, Paul W.
1991 *Land and Law in California: Essays on Land Policies*. Iowa State University Press, Ames.
- Gifford, E. W., and W. E. Schenck
1926 Archaeology of the Southern San Joaquin Valley, California. *University of California Publications in American Archaeology and Ethnology*, Vol. 23, No. 1.
- Gudde, Erwin
1969 *California Place Names*. University of California Press, Berkeley.
- Harvey Sr., William
1907 *Atlas of Fresno County, CA*. William Harvey, Fresno.
- Hayes, Derek
2007 *Historical Atlas of California*. University of California Press, Berkeley.
- Hofsommer, Don L.
1986 *The Southern Pacific, 1901-1985*. Texas A & M University Press, College Station.
- Hoover, Mildred, Hero E. Rensch, Ethel G. Rensch (William N. Abeloe, editor)
1970 *Historic Spots in California* (Third Edition). Stanford University Press, Stanford.
- Kroeber, Alfred L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78. Washington, D.C.

- Latta, Franklin F.
1949 *Handbook of the Yokuts Indians*. Bear State Books, Oildale, California.
- Lewis Publishing Company
1892 *A Memorial and Biographical History of the Counties of Fresno, Tulare and Kern, California*. Chicago: The Lewis Publishing Company.
- Lillard, Jeremiah B., Robert F. Heizer and Franklin Fenenga
1939 An Introduction to the Archaeology of Central California. *Sacramento Junior College, Department of Anthropology Bulletin 2*. Sacramento.
- Lillard, Jeremiah B. and William K. Purves
1936 The Archeology of the Deer Creek-Cosumnes Area, Sacramento County, California. *Sacramento Junior College, Department of Anthropology Bulletin 1*.
- Meighan, Clement W.
1959 California Cultures and the Concept of an Archaic Stage. *American Antiquity* 24(3): 289-318.
- Moratto, Michael J.
1984 *California Archaeology*. Academic Press, Inc., New York.
- Progressive Map Service
1923 *Progressive Atlas of Fresno County*. Progressive Map Service, Fresno.
- Riddell, Francis A. and William H. Olsen
1969 An Early Man Site in the San Joaquin Valley, California. *American Antiquity* 34(2): 121-131. Washington, D.C.
- Rogers, Malcolm J.
1939 Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. *San Diego Museum Papers 3*. San Diego.
- Schenck, W. Egbert and Elmer Dawson
1929 Archaeology of the Northern San Joaquin Valley. *University of California Publications in American Archaeology and Ethnology* 25(4): 289-413. Berkeley.
- Smith, Wallace
1960 *Garden of the Sun*. Eighth edition. Privately printed.
- Thompson, Thomas H.
1891 *Official Historical Atlas Map of Fresno County*. Thomas H. Thompson, Tulare, California.

Vandor, Paul E.

1919 *History of Fresno County, California*. Historic Record Company, Los Angeles.

Varner, Dudley

2005 A Cultural Resources Study of the Riverfront Ventures Property in the City of Fresno, Fresno County, California. On file, South San Joaquin Valley Information Center (#FR-2112).

Wedel, Waldo R.

1941 Archaeological Investigations at Buena Vista Lake, Kern County, California. *Bureau of American Ethnology Bulletin* 130. Washington, D.C.

Winchell, Lilbourne Alsip

1933 *History of Fresno County and the San Joaquin Valley*. Fresno: A. H. Cawston. Publisher.

APPENDIX 1

Resumes

PEAK & ASSOCIATES, INC.
RESUME

MELINDA A. PEAK
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

January 2018

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American consultation and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She is a registered professional historian and has completed a number of historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley

RECENT PROJECTS

Ms. Peak completed the cultural resource research and contributed to the text prepared for the DeSabra-Centerville PAD for the initial stage of the FERC relicensing. She also served cultural resource project manager for the FERC relicensing of the Beardsley-Donnells Project. For the South Feather Power Project and the Woodleaf-Palermo and Sly Creek Transmission Lines, her team completing the technical work for the project.

In recent months, Ms. Peak has completed several determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also completed historical research projects on a wide variety of topics for a number of projects including the development of navigation and landings on the Napa River, wineries, farmhouses dating to the 1860s, bridges, an early roadhouse, Folsom Dam and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of a number of prehistoric sites. She is currently involved as the principal investigator for the Teichert Quarry project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers and the Office of Historic Preservation.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the Land of Liberty series.

PEAK & ASSOCIATES, INC.
RESUME

MICHAEL LAWSON

January 2018

Archeological Specialist

3941 Park Drive, Suite 20-329

El Dorado Hills, CA 95672

(916) 939-2405

PROFESSIONAL EXPERIENCE

Mr. Lawson has compiled an excellent record of supervision of excavation and survey projects for both the public and private sectors over the past twenty-two years. He has conducted a number of surveys throughout northern and central California, as well as serving as an archeological technician and crew chief for a number of excavation projects.

EDUCATION

B.A. - Anthropology - California State University, Sacramento

Special Course: Comparative Osteology. University of Tennessee, Knoxville. Forensic Anthropology Center. January 2018.

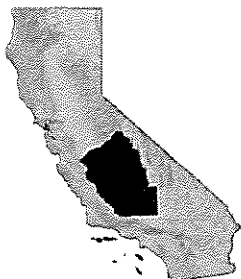
Intensive lab and outdoor study with human example from outdoor research facility, including typical and non-metric examples, compared with fifty non-human species most commonly confused with human remains. Outdoor research facility "The Body Farm" study included survey, photography, collection and identification of faunal and human bone fragments, with a Power Point presentation discussing finds.

EXPERIENCE

- Extensive monitoring of open space, streets and project development areas for prehistoric period and historic period resources. Areas monitored include Sutter Street in Folsom; Mud Creek Archeological District in Chico; Camp Roberts, San Luis Obispo County; Avila Beach, San Luis Obispo County; Edgewood Golf Course, South Lake Tahoe; Davis Water Project, Davis; Star Bend levee section, Sutter County; Feather River levees, Sutter County; Bodega Bay, Sonoma County; San Jose BART line extension, Santa Clara County; and numerous sites for PG&E in San Francisco.
- Over twenty years of experience working in CRM, volunteer, and academic settings in California historic, proto-historic, and prehistoric archaeology.
- Expertise in pedestrian survey, excavation, feature (including burial) exposure, laboratory techniques, research. Field positions include crew chief and lead technician.

APPENDIX 2

Record Search



10/29/2018

Robert Gerry
 Peak & Associates, Inc.
 3941 Park Drive, Suite 20-329
 El Dorado Hills, CA 95762

Re: Tract 6195
 Records Search File No.: 18-438

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Herndon USGS 7.5' quad. The following reflects the results of the records search for the project area and the radius 0.125 mile radius:

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

Resources within project area:	None
Resources within 0.125 mile radius:	P-10-005914, P-20-003106
Reports within project area:	FR-00433, FR-02112
Reports within 0.125 mile radius:	FR-00339, FR-02279, FR-02403, MA-00265

Resource Database Printout (list): enclosed not requested nothing listed

Resource Database Printout (details): enclosed not requested nothing listed

Resource Digital Database Records: enclosed not requested nothing listed

Report Database Printout (list): enclosed not requested nothing listed

Report Database Printout (details): enclosed not requested nothing listed

Report Digital Database Records: enclosed not requested nothing listed

Resource Record Copies: enclosed not requested nothing listed

Report Copies: enclosed not requested nothing listed

OHP Historic Properties Directory: enclosed not requested nothing listed

Archaeological Determinations of Eligibility: enclosed not requested nothing listed

CA Inventory of Historic Resources (1976): enclosed not requested nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see
<http://www.dot.ca.gov/hq/structur/strmaint/historic.htm>

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

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

Local Inventories: Not available at SSJVIC

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

Shipwreck Inventory: Not available at SSJVIC; please see
<http://www.slc.ca.gov/Info/Shipwrecks.html>

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

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

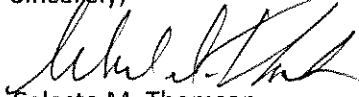
The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained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

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

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

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

Sincerely,

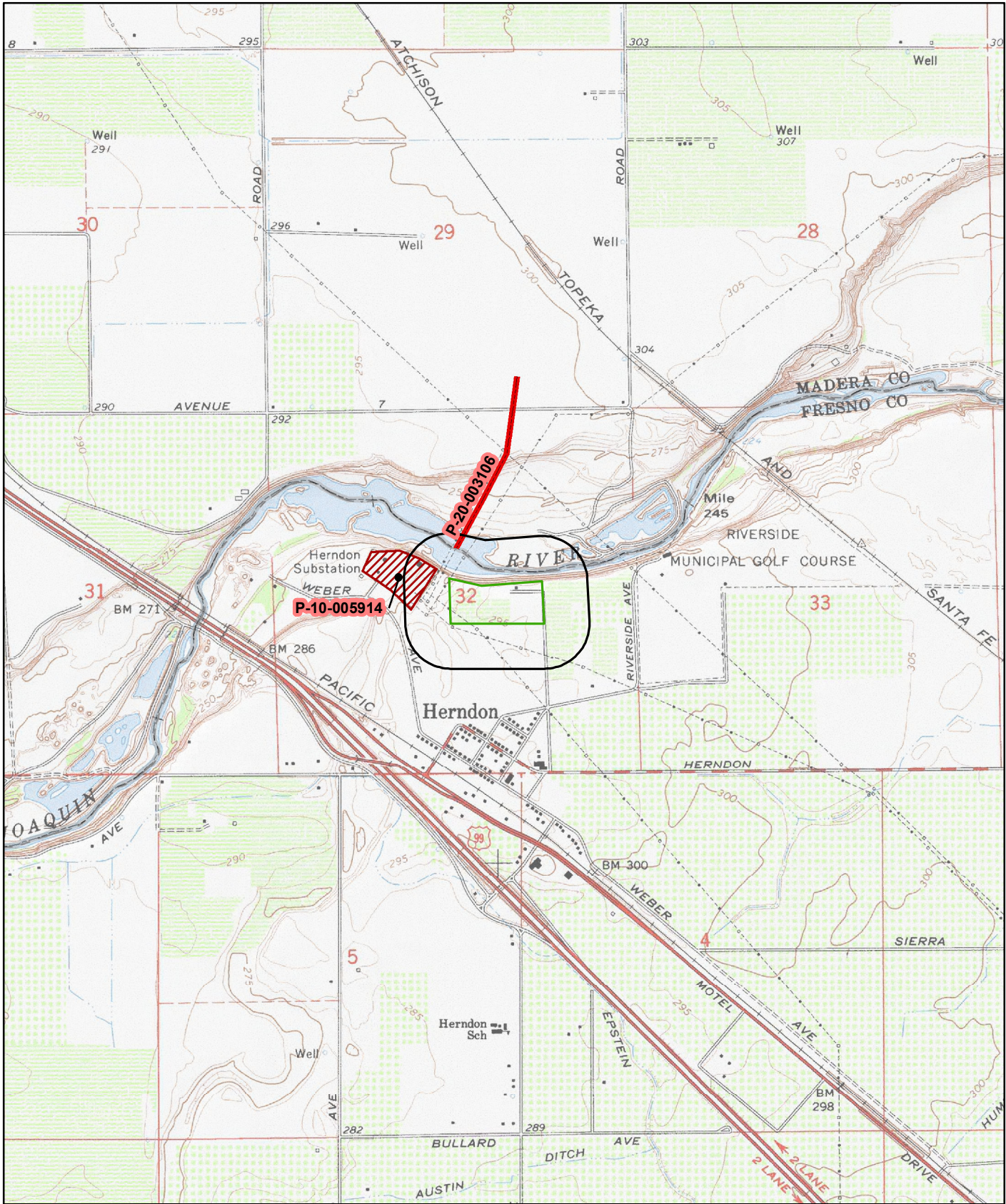


Celeste M. Thomson
Coordinator

Resource List

SSJVIC Record Search 18-438

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-10-005914		Resource Name - Herndon Substation; OHP Property Number -	Building, Structure	Historic	HP09; HP11	2008 (Aubrie Morlet, Applied EarthWorks, Inc.)	FR-02403
P-20-003106	CA-MAD-002826H	Resource Name - AE-3043-BE-056	Structure	Historic	HP11	2015 (Katie Asselin, Applied Earthworks)	



May depict confidential cultural resource locations.
Do not distribute.

0 0.125 0.25 0.5 Miles

0 0.175 0.35 0.7 Kilometers

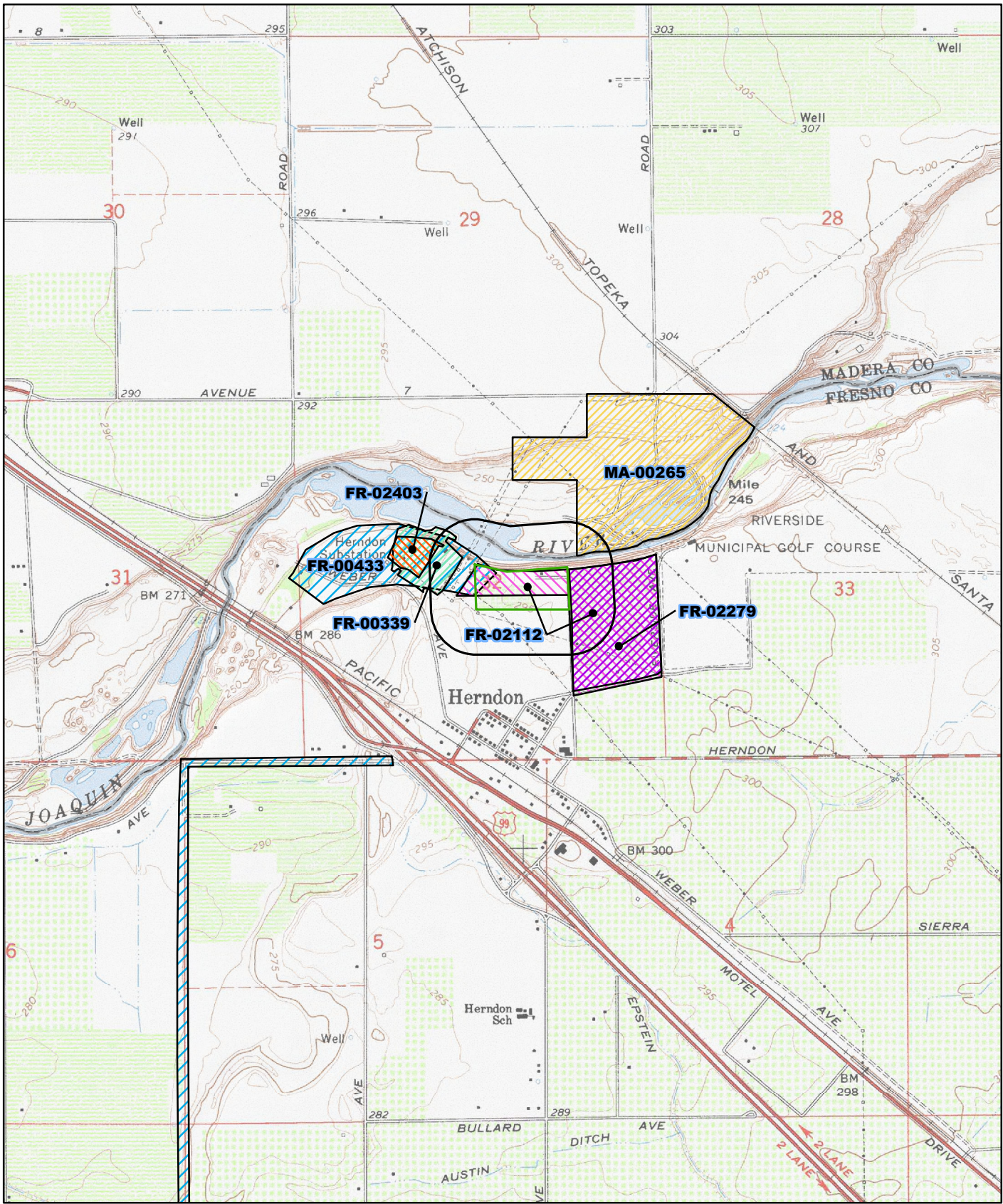


SSJVIC Record Search 18-438
Herndon 7.5'
Fresno & Madera Counties, CA
Resources Only

Report List

SSJVIC Record Search 18-438

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-00339		1979	Cursi, Kathleen L.	Archaeological Reconnaissance in the Herndon Substation Area, Fresno and Madera Counties, California	California State University, Fresno	
FR-00433		1977	Davis, Alan, Dick, Linda, and Varner, Dudley	An Archaeological Reconnaissance of the Gates Substation to the Proposed Gregg Substation 500 KV Transmission Line, Fresno and Madera Counties	California State University, Fresno	
FR-02112		2005	Varner, Dudley M.	A Cultural Resources Study of the Riverfront Ventures Property, In the City of Fresno, Fresno County, California	Varner Associates	
FR-02279		2006	Busby, Colin I.	Cultural Resources Assessment - Riverfront Ventures LLC, Tract 5358 Fresno, City of Fresno, Fresno County	Basin Research Associates	
FR-02403		2010	Morlet, Aubrie	Historic Resource Evaluation of the Herndon Substation, Fresno County, California	Applied EarthWorks, Inc.	10-005914
MA-00265		1991	Cartier, Robert	Cultural Resource Evaluation for the River Ridge Estates in the City of Fresno, County of Madera	Archaeological Resource Management	



May depict confidential cultural resource locations.
Do not distribute.

0 0.125 0.25 0.5 Miles

0 0.175 0.35 0.7 Kilometers



SSJVIC Record Search 18-438
Herndon 7.5'
Fresno & Madera Counties, CA
Reports Only

Appendix C

Phase I Environmental Site Assessment



**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
TAPESTRY 3
APN'S 504-050-02 & 504-130-12
7308 N THIELE AVE.
FRESNO, CALIFORNIA 93722**

July 21, 2017

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A Report Prepared for:

Mr. Dennis M. Gaab
Benchmark Communities, LLC
7815 N. Palm Avenue, Ste 101
Fresno, CA 93711

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
TAPESTRY 3
APN'S 504-050-02 & 504-130-12
7308 N THIELE AVE.
FRESNO, CALIFORNIA 93722**

Project No: 17-141
April 21, 2017



Ryan Brosius, Environmental Supervisor



Nathan Gleaves, R.C.E.



Precision Civil Engineering, Inc.
1234 "O" Street
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1 EXECUTIVE SUMMARY

A Phase I Environmental Site Assessment (ESA) was conducted for Benchmark Communities; the property is located at 7308 N. Thiele Avenue in Fresno, California 93722 (See Plate 1, Site Location Map.). The subject site is a fallow agricultural field encompassing approximately 14.32-acres (APN's 504-050-02 and 504-130-12). The site is proposed to be a residential development. This report was prepared using the American Society of Testing and Materials (ASTM), *Standard Practice for Phase I Environmental Site Assessment Process E1527-13*. In summary, Precision Civil Engineering, Inc.'s assessment revealed evidence of the following recognized environmental conditions (RECs):

- The site contained several structures as noted on the aerial photographs and topographic maps. Structures were noted on the site between the years 1937 and 1984. Septic systems may have been associated with the former onsite residences.
- The site is a fallow agricultural field. On properties with a history of agricultural use, many underground pipelines may exist.
- Trash and debris is located throughout the site, the highest concentrations of debris are in the northeastern portions of the site. The debris consists of household trash, concrete debris, wood debris, and yard debris. Concrete debris is located in the northwestern border of the site.
- A large soil pile is located in the eastern portion of the site. The smaller soil piles west of the basin do not appear to be from the site. The larger soil pile appears to be native to the site due to excavating the onsite basin.
- A dry basin is located adjacent to the eastern border of the site.
- A power line tower is located on the northwestern corner of the site.
- There are three off-site facilities listed within the ASTM regulatory agency databases researched by EDR. Based on the databases listed, limited extent of the releases and distance from the site, the following three locations are not expected to have an adverse impact on the subject site: PG&E Herndon Substation, Riverside Golf Course, located at 7672 N Josephine, Curtis Towing, located at 6944 Van Buren Avenue.

In addition to the above list, RECs, deviations, historical environmental conditions and de minimus findings are discussed in Chapter 8. This report is subject to the limitations in Chapter 2.

2 INTRODUCTION

2.1 PURPOSE

Precision Civil Engineering, Inc. (PCE) conducted a Phase I Environmental Site Assessment (ESA) of the subject property. It is our understanding that this report will assist the client in recognizing environmental conditions associated with the subject property's past and current use. PCE performed this ESA in general accordance with the scope and limitations of the *American Society for Testing and Materials (ASTM) Standard Practice for Phase I Environmental Site Assessment Process E1527-13*.

The purpose of this assessment is to assist the client in recognizing environmental conditions at the site. A recognized environmental condition is defined by the ASTM standard as "the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property." The term includes hazardous substances or petroleum products even under conditions in compliance with laws.

Resumes of PCE environmental professionals conducting this report are available upon request.

2.2 DETAILED SCOPE OF SERVICES

The following sections describe PCE's work scope:

- Chapter 2, **Introduction**, includes a discussion of the purpose/reason for performing the Phase I ESA; additional services requested by the client (e.g. an evaluation of business environmental risk factors associated with the property); significant assumptions (e.g. property boundaries if not marked in the field); limitations, exceptions, and special terms and conditions (e.g. contractual); and user reliance parameters.
- Chapter 3, **Site Setting**, is a compilation of information concerning the site location, legal description (if available), current and proposed use of the subject site, a description of structures and improvements on site at the time of PCE's assessment, and current uses of adjoining properties.
- Chapter 4, **Records Review**, is a compilation of PCE's review of several databases available from federal, state and local regulatory agencies regarding

hazardous substance use, storage or disposal at the subject site; and for off-site facilities within the search distance specified in the ASTM standard. Records provided by the client are summarized and copies of the relevant documents are included in the appendices of this report. Interviews and telephone conversations conducted by PCE with regulatory agency representatives are included in Chapter 4. Physical setting sources (including topography, soil and groundwater conditions) are also summarized in this chapter, as is client-provided information (i.e., for environmental liens, specialized knowledge, valuation reduction for environmental issues, and owner, property manager and occupant information). Other interviews with people knowledgeable about the site (including the client) are included in Chapter 7.

- Chapter 5, **Historical Use of the Property and Adjoining Properties**, summarizes the history of the site and adjoining properties. This history is based on various sources which may include: a review of aerial photographs, Sanborn Fire Insurance Maps, city or suburban directories, historical topographic maps, building department records and previous assessments.
- Chapter 6, **Site Reconnaissance**, describes PCE's site observations during the site reconnaissance. The methodologies used and limiting conditions are described.
- Chapter 7, **Interviews**, is a summary of telephone and personal interviews conducted with "key managers" that may include the owner/manager of the facility, occupants/tenants, local government officials and the client. Additional interview sources may be contacted if "key managers" are not available prior to production of this report and include adjacent landowners and people with historical knowledge of the area.
- Chapter 8, **Evaluation**, discusses our findings and opinions regarding the information in Chapters 3 through 7 and offers our conclusion regarding the presence of recognized environmental conditions connected with the site.
- Chapter 9, **References**, is a summary list of the resources used to compile this report.

Pertinent documentation regarding the subject site is included in Appendices of this report.

2.3 ADDITIONAL SERVICES

An evaluation of business environmental risk associated with the parcel(s) was not included in PCE's scope of work. The ASTM Phase I ESA scope does not incorporate non-scope considerations, such as (but not limited to): asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance,

cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high voltage power lines.

2.4 SIGNIFICANT ASSUMPTIONS

The subject property is hereafter referred to as the “site.”

2.5 LIMITATIONS AND EXCEPTIONS

Phase I ESAs are non-comprehensive by nature and are unlikely to identify all environmental problems or eliminate all risk. This report is a qualitative assessment. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help you understand and better manage your risks. Since such detailed services involve greater expense, we ask our clients to participate in identifying the level of service, which will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further. No warranty/guarantee – either expressed or implied – is given.

PCE performed this environmental assessment in general accordance with the guidelines set forth in the ASTM *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (Designation E-1527-13), subsequently approved by you as our client. No warranty – either express or implied – is made. Environmental issues not specifically addressed in the report were beyond the scope of our work and not included in our evaluation.

This report may be used only by the Client and only for the purposes stated within a reasonable time for its issuance, *but in no event later than one year from the date of the report*. Land or facility use, on and off-site conditions, regulations or other factors may change over time, and additional work may be required with the passage of time. Since site activities and regulations beyond our control could change at any time after the completion of this report, our observations, finding and opinions can be considered valid only as of the date of the site visit. This report should not be relied upon after 180 days from the date of issuance (ASTM Standard E-1524-13, Section 4.6). Any party other than the Client who wishes to use this report shall notify PCE of such intended use. Based on the intended use of this report, PCE may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release PCE from any liability resulting from the use of this report by any unauthorized party and Client agrees to defend, indemnify, and hold harmless PCE from any claim or liability associated with such unauthorized use or non-compliance.

2.6 SPECIAL TERMS AND CONDITIONS

No special terms and conditions, in addition to those discussed in the previous chapters, were agreed to by the User and PCE.

3 SITE SETTING

The site setting is presented in this section and describes the condition of the subject site at the time of the Phase I ESA. The site location is shown on Plate 1 in Appendix A. Tables 3.1 through 3.5 provide the physical characteristics of the site and bordering properties.

3.1 LOCATION AND LEGAL DESCRIPTION

The information presented in Table 3.1 describes the physical location and legal description of the subject site. This information was obtained from review of various maps, public records at city and/or county offices, interviews and information provided by the Client.

**TABLE 3-1
LOCATION AND LEGAL DESCRIPTION**

ADDRESSES	7308 N. Thiele Avenue
HISTORICAL ADDRESSES	None known
LOCATION	West of N. Thiele Avenue and W. Oak Avenue.
TOWNSHIP & RANGE	Sec. 32, Township 12 South, Range 19 East.
ASSESSOR'S PARCEL NUMBER	504-050-02 and 504-130-12
LEGAL DESCRIPTION	None
ACREAGE	14.32
POTABLE WATER	City of Fresno Water
SEWER	City of Fresno Sewer
ZONING	AE5

3.2 CURRENT/PROPOSED USE OF THE PROPERTY

Land use on site was a fallow agricultural field; the general vicinity appeared to be agricultural and residential at the time of PCE's assessment. Current and proposed uses are described in Table 3-2.

**TABLE 3-2
CURRENT/PROPOSED USES**

Parameter	General Observations
CURRENT USE	Fallow agricultural field
PROPOSED USE	Residential development

3.3 DESCRIPTION OF STRUCTURES/IMPROVEMENTS

Structures and/or improvements observed on site at the time of PCE's site reconnaissance are described in Table 3-3.

**TABLE 3-3
STRUCTURES/IMPROVEMENTS**

Parameter	General Observations
STRUCTURES	No structures are located on the site.
IMPROVEMENTS	Power lines.

3.4. CURRENT USES OF ADJOINING PROPERTIES

PCE performed a brief drive-by survey of the parcels immediately adjacent to the site on July 18, 2017. A summary of the surrounding properties is presented in Table 3.4.

**TABLE 3-4
SURROUNDING PROPERTIES**

North	The San Joaquin River beyond which is agricultural land
South	A fallow field
East	Residential property
West	A fallow field and a PG&E substation

Hazardous materials were not observed to be stored adjacent to the subject site, nor were other environmental conditions apparent at the time of PCE's site reconnaissance.

4 RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The purpose of the records review is to obtain and review records that would help to evaluate recognized environmental conditions of potential concern in connection with the subject site and bordering properties.

Federal, state and local regulatory agencies publish databases or "lists" of businesses and properties that handle hazardous materials or hazardous waste, or are a known location of a release of hazardous substances to soil and/or groundwater. These databases are available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. PCE contracted with a commercial database service – Environmental Data Resources (EDR) of Southport, Connecticut – to perform the government database search for listings within the appropriate ASTM minimum search distance to the site. A description of the types of information contained in each of the databases reviewed and the agency responsible for compiling the data is also included in the EDR Radius Report. The EDR database search results are included in Appendix C, are summarized on Table 4-1.

**TABLE 4-1
RECORDS REVIEW-SEARCH DISTANCE**

FEDERAL	DISTANCE
EPA National Priority List (NPL)	1-mile
De-listed National Priority List (NPL)	½-mile
Comprehensive Environmental Response Compensation Liability Information System (CERCLIS)	½-mile
CERCLIS-NFRAP (No Further Remedial Action Planned)	½-mile
Resource Conservation Recovery Act (RCRA)-CORRACTS TSDF	1-mile
RCRA-non CORRACTS TSD	½-mile
RCRA-GEN/FINDS	Site & adjoining

**TABLE 4-1 (Cont.)
RECORDS REVIEW-SEARCH DISTANCE**

FEDERAL	DISTANCE
ERNS	Site
US Engineering Controls, US Institutional Controls	Site & adjoining
STATE/LOCAL	DISTANCE
CLEANERS	¼-mile
CORTESE (formerly Hazardous Waste Substances)	½-mile
Landfills (SWAT/SWF/LF)	½-mile
Leaking Underground Storage Tank (LUST)	½-mile
Site Mitigation and Brownfield's Reuse Program Database	½-mile
SLIC (Spills, Leaks, Investigations & Clean-up)	½-mile
Toxic Chemical Release Inventory System (TRIS)	½-mile
Waste Discharge System (CA WDS)	½-mile
Cal-Sites, Bond Expenditure Plan (BEP), Annual Work Plan (AWP)	1-mile
Solid Waste Information System (SWIS)	1-mile
DEED	Site
Above Ground Storage Tank	Site & adjoining
California Hazardous Materials Information System (CHMIRS)	Site & adjoining
FINDS	Site & adjoining
HAZNET, Sacramento County Master List (SCML)	Site & adjoining
Sacramento County Contaminated Sites (SCCS)	½-mile
UST, CaFID, HistUST	Site & adjoining
Voluntary Cleanup (VCP)	½-mile
Recycler Database (SWRCY)	Site & adjoining

4.2 RESULTS OF DATABASE SEARCH

The following sections contain information on the results of EDR's record search. The subject site was not listed on regulatory agency databases researched by EDR.

Off-site, there were three facilities listed within the ASTM search distance as follows:

PG&E Herndon Substation, located at 7430 N Weber Avenue, west of the site appears on the FINDS database. The facility appears on the FINDS database due to it being a large quantity generator with no violations found.

Riverside Golf Course, located at 7672 N Josephine, approximately 1500 feet to the east southeast of the site appears on the LUST and HIST CORTESE databases. The facility appears on the LUST database due to a leaking underground storage tank containing gasoline and the media affected is soil only. The status of the case is reported as being completed and the case is closed.

Curtis Towing, located at 6944 Van Buren Avenue, approximately 1700 feet south southwest of the site appears on the LUST database. The facility appears on the LUST database due to a leaking underground storage tank containing diesel and the media affected is not listed. The status of the case is reported as being completed and the case is closed.

Sites not plotted by EDR due to poor or inadequate address information are referred to as orphan sites. There are no unmapped sites in the EDR Report. The orphan summary/unmapped sites report was reviewed to assess the potential for off-site properties to be listed on databases that fall within the ASTM search distances. Based on our review, these orphan sites appear to be on other database listings already discussed above or are outside of the ASTM search distance.

4.3 ADDITIONAL AGENCY ENVIRONMENTAL RECORDS

The following additional sources of environmental records were reviewed during this Phase I ESA for the purposes of meeting the ASTM standard. Local regulatory agencies were contacted for reasonably ascertainable and practically reviewable documentation regarding recognized environmental conditions present at the subject site and adjacent facilities (interview documentation is included in Appendix D). The following agencies were contacted for documentation:

- Fresno County Agricultural Commissioner's Office
- Fresno County Building Department
- Fresno County Environmental Health Department (FCEHD)
- Fresno County Office of Emergency Services
- State of California, Department of Water Resources
- State of California, Regional Water Quality Control Board
- State of California, Department of Conservation, Division of Oil and Gas
- State of California, Department of Toxic Substances Control
- State of California, Fire Marshal, Pipeline Safety Office
- City or Municipal Water District

The State of California, Department of Conservation, Division of Oil and Gas

The State of California, Department of Conservation, Division of Oil and Gas was not contacted because information concerning oil and gas fields were obtained from published maps available for download on their Internet Web site www.consrv.ca.gov. Map findings are discussed in Table 4-2.

Fresno County Building Department

The Fresno County Building Department was contacted for information about the subject site. The site did not contain any files.

Fresno County Environmental Health Department (FCEHD)

File review was submitted on July 20, 2017 at the FCEHD for nearby facilities and the subject site. According to the FCEHD database they did not contain any files for the subject site.

National Pipeline Mapping System (NPMS)

According to the NPMS website (<http://www.npms.phmsa.dot.gov/>) there are no pipelines in the vicinity of the site.

State of California, Department of Toxic Substances Control (DTSC)

DTSC was contacted on July 20, 2017 for information regarding hazardous materials and petroleum product incidents for the site. According to their website and the Envirostor Database (<http://www.envirostor.dtsc.ca.gov/public/map>), DTSC does not contain any information for the subject site.

Fresno County Office of Emergency Services (FC/OES)

FC/OES was contacted on July 20, 2017 for information regarding incidents with hazardous materials and/or petroleum products. At the time of report preparation, PCE had not received information from the FC/OES. If information that may change the findings of this report is received at a later date, PCE will inform the client and provide an addendum letter to this report.

State of California, Regional Water Quality Control Board (RWQCB)

The RWQCB online database (<https://geotracker.waterboards.ca.gov>) was reviewed on July 20, 2017 regarding hazardous materials and petroleum product incidents for the site. According to their website RWQCB does not contain any information for the subject site or adjacent sites.

4.4 PHYSICAL SETTING SOURCE(S)

Table 4-2 presents information about the physical setting of the site. This information was obtained from published maps. A geotechnical investigation report was not available for PCE to review.

**TABLE 4-2
PHYSICAL SETTING**

USGS TOPOGRAPHIC QUADRANGLE	Herndon, CA Quadrangle, 7.5 Minute Map, Mt. Diablo Base and Meridian (2012)	The subject site is located at an approximate elevation of 295 feet above mean sea level (mfs) and the topographic relief slopes to the southwest. The site is depicted as vacant.
GEOLOGIC MAP	Regional Geologic Map Series, San Francisco-San Jose Quadrangle, Map No. 5A, 1991; Scale: 1 inch = 3.95 miles	The subject site and the adjacent properties are shown as being underlain by the Modesto Formation.
SOIL TYPE	EDR	There is one soil types depicted onsite: Onsite soil is listed as Hanford. Hanford is described as having moderate infiltration rates. Soils are fine sandy loam, Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
OIL AND GAS FIELDS	ftp://ftp.consrv.ca.gov/pub/oil/maps/dist5/W5-3/MapW5-2.pdf	According to the Web page, there is no gas or oil wells located on the site.

Information about the regional geology is presented in Table 4-3. This information was obtained from published data and maps, interviews with public agencies, and/or from previous investigations conducted by PCE in the vicinity of the site.

**TABLE 4-3
REGIONAL GEOLOGY AND HYDROGEOLOGY**

Physical Parameter	Information/Comments
REGIONAL GEOMORPHIC PROVINCE	<p>The site is located in the Great Valley Geographic Province in Central California. This province was formed by the filling of a large structural trough or down warp of the underlying bedrock. The trough is situated between the Sierra Nevada Mountains on the east and the Coast and Cascade Ranges on the west. The trough, which underlies the Valley, is asymmetrical with the greatest depth of sediments along the western margin. The sediments that fill the trough originated as erosional debris from the adjacent mountains and foothills.</p> <p>The subject site is located in the San Joaquin Valley, which is the southern half of the Great Central Valley of California. The Valley fill consists of Jurassic to Holocene-aged marine, lacustrine, fluvial and eolian sediments. The Valley geomorphology includes dissected uplands, low alluvial plains and fans, river floodplains and channels, and overflow lands and lake bottoms.</p>
DEPTH TO REGIONAL GROUNDWATER ¹ (Source: DWR).	The depth to groundwater is approximately 100 feet below ground surface. General groundwater depth may be influenced by local pumping, rainfall and irrigation patterns.

**TABLE 4-3 (Cont.)
REGIONAL GEOLOGY AND HYDROGEOLOGY**

DIRECTION OF ANTICIPATED FLOW ¹ <i>(Source: DWR).</i>	Regional groundwater flow direction is toward the north.
REGIONAL GROUNDWATER QUALITY PROBLEMS <i>(Source: EDR Radius Report, Geocheck Version 2.1 Summary)</i>	Regional groundwater quality problems and regional impairments to water quality were not revealed during PCE's assessment. See below.
WATER SUPPLY <i>(Source: EDR, Inc. Geocheck, beginning p. A-11)</i>	EDR's well search revealed two USGS wells and seven state wells within a 1-mile radius of the subject site. Groundwater flow direction was not mapped by EDR, Inc.
FLOOD ZONE DESIGNATION <i>(Source: EDR)</i>	According to the EDR regulatory agency database search report, the subject site is not located within the 100-year or the 500-year flood zone.

¹ Groundwater flow direction and anticipated depth to groundwater are based on regional information sources. Site-specific conditions may vary due to a variety of factors including geologic anomalies, utilities, nearby pumping wells (if present), and other developments.

4.5 USER PROVIDED INFORMATION

Information regarding current owner/occupant is listed in Table 4-4.

**TABLE 4-4
OWNER/OCCUPANT INFORMATION**

Entity	Name
OWNER	US Property Investors Group LLC
PROPERTY MANAGER	None
OCCUPANT	None

Information on interviews with key individuals is provided in Chapter 7. The following section presents information provided by the Client.

4.5.1. TITLE RECORDS

A Preliminary Title Report or Chain-of-Title Report was not provided to PCE for review prior to production of this report. These documents may provide information about land, including ownership and other interests in the land, easements and liens. Not all liens. Defects and encumbrances affecting title to the land may be included in the Preliminary Title Report.

4.5.2. ENVIRONMENTAL LIENS

According to information provided in the EDR regulatory agency databases search report (EDR 2017), there are no liens listed in the United States Environmental Protection Agency's (US EPA's) Federal Superfund Liens List, and no known recorded land-use environmental deed restrictions pertaining to the subject site listed in the State liens database.

4.5.3. VALUE REDUCTION

As part of the ASTM E 1527-13 process, information must be gathered regarding the prospective purchase price of the property relative to the fair market value of the subject site. If there appears to be a value reduction, that reduction must be identified with respect to whether the difference could be attributed to environmental degradation of the property. This information was not provided.

4.5.4. OTHER

No additional information was provided by the client.

5 HISTORICAL USE OF THE PROPERTY AND ADJOINING PROPERTIES

The history of the site was researched to identify obvious uses of the site from the present to first developed use or to 1940, whichever is earlier, from readily available resources. Table 5-1 summarizes the availability of information reviewed during this assessment.

**TABLE 5-1
HISTORICAL SOURCES**

	Years reviewed	Availability
AERIAL PHOTOGRAPHS	1937, 1942, 1946, 1950, 1957, 1962, 1967, 1973, 1979, 1984, 1987, 1998, 2005, 2006, 2009, 2010, 2012	EDR
SANBORN FIRE INSURANCE MAPS	All Available	EDR
POLK AND HAINES CRISS-CROSS DIRECTORIES	All Available	EDR City Directory Abstract.
HISTORICAL TOPOGRAPHIC MAP REPORT	2012, 1978, 1965, 1964, 1947, 1946, 1923	EDR
BUILDING DEPARTMENT	All years available	EDR
PREVIOUS ASSESSMENT(S)	All Available	None
CHAIN-OF-TITLE OR PRELIMINARY TITLE REPORT	All Available	EDR
ENVIRONMENTAL LIEN SEARCH	All years available	EDR

5.1 AERIAL PHOTOGRAPHY

Historical aerial photographs were reviewed to evaluate past land use at the site and in the surrounding area. Aerial photographs covering 40 years were obtained through EDR. A summary of the aerial photographs reviewed is presented, as follows:

**TABLE 5-2
AERIAL PHOTOGRAPHS REVIEWED**

Date	Photo ID	Scale	Type	Source	Quality
1937	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USGS	Fair
1942	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USGS	Good
1946	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USGS	Good
1950	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Good
1957	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Good
1962	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USGS	Good
1967	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Good
1973	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Good
1979	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Good
1984	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Poor
1987	4911091.12	1 inch = 500 feet	Black and white, monoscopic	USDA	Poor
1998	4911091.12	1 inch = 500 feet	Color, monoscopic	USGS	Good
2005	4911091.12	1 inch = 500 feet	Color, monoscopic	USDA	Good
2006	4911091.12	1 inch = 500 feet	Color	USDA	Good
2009	4911091.12	1 inch = 500 feet	Color	USDA	Good
2010	4911091.12	1 inch = 500 feet	Color	USDA	Good
2012	4911091.12	1 inch = 500 feet	Color	USDA	Good

Year: 1937

Photo I.D.: 4994433.12

Scale: 1 inch = 500 feet

Type: Black and White

Quality: Fair

The site appears to be agricultural land. A residence and out buildings are located on the northern portion of the site. A road borders the site to the east.

The surrounding properties appear to be agricultural. The San Joaquin River is located adjacent to the north of the site. A PG&E substation is located to the west of the site. Agricultural land is located to the south and east of the site.

Year: 1942

Photo I.D.: 4994433.12

Scale: 1 inch = 500 feet

Type: Black and White

Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1937 aerial photograph.

Year: 1946
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1942 aerial photograph with the exception of the out buildings are no longer present.

Year: 1950
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1946 aerial photograph with the exception of a two structures on the northwest portion of the site. The residential structure is now east of the former location.

Year: 1957
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1950 aerial photograph.

Year: 1962
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1957 aerial photograph.

Year: 1967
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1962 aerial photograph.

Year: 1973
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1967 aerial photograph with the exception of the two structures located on the northwestern portion of the site are no longer present.

Year: 1979
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1973 aerial photograph.

Year: 1984
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Poor

The subject site and adjacent properties are essentially unchanged from the 1979 aerial photograph with the exception of the structures are no longer present onsite.

Year: 1987
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Poor

The subject site and adjacent properties are essentially unchanged from the 1984 aerial photograph.

Year: 1998
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1987 aerial photograph with the exception of additional structures located to the west of the site.

Year: 2005
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 1998 aerial photograph.

Year: 2006
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 2005 aerial photograph.

Year: 2009
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 2006 aerial photograph with the exception of what appears to be a basin and a soil pile on the eastern portion of the site.

Year: 2010
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 2009 aerial photograph.

Year: 2012
Photo I.D.: 4994433.12
Scale: 1 inch = 500 feet
Type: Black and White
Quality: Good

The subject site and adjacent properties are essentially unchanged from the 2010 aerial photograph.

NOTE: Aerial photographs only provide information on indications of land use and no conclusions regarding the release of hazardous substances or petroleum products can

be drawn from the review of photographs alone. The site boundaries were approximated during the early years, because physical features were not always readily apparent.

5.2 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance Maps provide historical land use information for some metropolitan and small established towns. PCE requested a search of Sanborn Fire Insurance Maps. No Sanborn coverage was found for the subject site.

5.3 POLK AND HAINES CRISS-CROSS DIRECTORIES

Polk and Haines Criss-Cross City Directories provide information regarding property occupants by address. These directories were reviewed by EDR, Inc. and are summarized in a report contained in Appendix D. The review was conducted in approximately 5-year increments. In summary the subject site was not listed.

5.4 HISTORICAL TOPOGRAPHIC MAP REVIEW

PCE contacted EDR for information regarding historical topographic maps (7.5 Minute Series) from the *Historical Topographic Map Report* for the site and vicinity. The topographic maps reviewed for this assessment are listed below. Copies of the topographic maps are included in Appendix B of this report.

1923

Herndon, CA Quad 7.5 Minute Series

Scale: 1 inch = 2,640 feet

The site and adjacent properties are depicted as being vacant land. A structure is depicted on the northern border of the site.

1946

Herndon, CA Quad 7.5 Minute Series

Scale: 1 inch = 2,640 feet

The subject site and adjacent properties are essentially unchanged from the 1923 topographical map.

1947

Herndon, CA Quad 7.5 Minute Series

Scale: 1 inch = 2,640 feet

The subject site and adjacent properties are essentially unchanged from the 1946 topographical map.

1964

Herndon, CA Quad 7.5 Minute Series

Scale: 1 inch = 2,640 feet

The subject site and adjacent properties are essentially unchanged from the 1947 topographical map with the exception of power lines trending through the western portion of the site.

1965

Herndon, CA Quad 15 Minute Series

Scale: 1 inch = 2,640 feet

The subject site and adjacent properties are essentially unchanged from the 1964 topographical map with the exception of the site being depicted as agricultural land.

1978

Herndon, CA Quad 7.5 Minute Series

Scale: 1 inch = 2,640 feet

The subject site and surrounding properties are essentially unchanged from the 1965 topographical map with the exception of the onsite structure is no longer present.

2012

Herndon, CA Quad 7.5 Minute Series

Scale: 1 inch = 2,640 feet

The subject site and adjacent properties are essentially unchanged from the 1978 topographical map.

5.5 BUILDING PERMIT RECORD

The subject site was researched for building permits between the years 2000-2016. No permits were found for the subject site.

5.6 PREVIOUS ASSESSMENTS

No previous assessments were provided to PCE for review and inclusion into this report.

6 SITE RECONNAISSANCE

6.1 METHODOLOGY AND LIMITING CONDITIONS

Mr. Ryan Brosius, Precision Civil Engineering, Inc. Staff Environmental Supervisor, performed a site reconnaissance on July 18, 2017 to assess and photograph present site conditions. The approximate site boundaries are shown on Plate 2 , "Site Map," and color photographs of the site are presented on Plate 3 (Appendix A). The site conditions discussed below are limited to readily apparent environmental conditions observed.

6.2 GENERAL SITE SETTING

The subject site is approximately 14.32 acres (APNs 504-050-02 and 504-130-12) located at 7308 N Thiele Avenue in Fresno, Ca.

The site is a fallow agricultural field. Trash and debris is located throughout the site, the highest concentrations of debris are in the northeastern portions of the site. The debris consists of household trash, concrete debris, wood debris, and yard debris. A large soil pile is located in the eastern portion of the site. The smaller soil piles west of the basin do not appear to be from the site. The larger soil pile appears to be native to the site due to excavating the onsite basin. No hazardous materials, staining, leakage, odors or stressed vegetation were associated with the soil piles. A dry basin is located adjacent to the eastern border of the site. Concrete debris is located in the northwestern border of the site. A power line tower is located on the northwestern corner of the site.

Thiele Ave is located to the east of the site beyond which is residential. The San Joaquin River is located adjacent to the north of the site beyond which is agricultural land. A fallow field and a PG&E substation are located to the west of the site. A fallow field is located to the south of the site.

6.3 SITE OBSERVATIONS

**TABLE 6-1
SITE OBSERVATIONS**

General Observations	Remarks	Observed	Not Observed
Current use	Fallow agricultural field	X	
Current use likely to indicate RECs	None		X
Past use likely to indicate RECs	Agricultural land		X
Past use	Agricultural land and residential		X

**TABLE 6-1 (Continued)
SITE OBSERVATIONS**

Structures	None	X	
Terrain	Level	X	
Roads	None	X	
Interior and exterior observations or environmental conditions that may involve the use, storage, disposal or generation of hazardous substances or petroleum products.		Observed	Not Observed
Above ground storage tank (AST)			X
Asbestos materials and lead-containing paint			X
Below grade vaults			X
Burned or buried debris			X
Chemical storage or agricultural chemical mixing areas			X
Discolored soil or water			X
Drains and piping			X
Drums			X
Electrical or hydraulic equipment (Polychlorinated biphenyls [pcbs])			X
Fill dirt from an unknown source			X
Hazardous chemical and petroleum products in connection with known use			X
Hazardous chemical and petroleum products in connection with unknown use			X
Hazardous waste storage			X
Heating and cooling system			X
Industrial waste treatment equipment			X
Loading and unloading areas			X
Non-hazardous containers with contents			X
Odors			X
Pits, ponds, or lagoons	A basin is located on the eastern portion of the site.	X	
Pools of liquid			X
Process waste water			X
Raw material storage or chemical storage areas			X
Sanitary system (sewer)			X
Septic system (tank and leach fields)	Septic systems may be associated with the former onsite residences.		X
Interior and exterior observations or environmental conditions that may involve the use, storage, disposal, or generation of hazardous substances or petroleum products.		Observed	Not Observed
Soil piles	A large soil pile is located on the eastern portion of the site.	X	
Solid waste/evidence of unauthorized dumping	Trash and debris is located throughout the site, the highest concentrations of debris are in the eastern portions of the site. The debris consists of household trash, concrete debris, wood debris, and yard debris.	X	
Stained pavement or concrete			X

**TABLE 6-1 (Continued)
SITE OBSERVATIONS**

Stains or corrosion (interior)			X
Storm drains / catch basins			X
Stressed vegetation			X
Sumps & clarifiers			X
Surface water			X
Underground storage tank(s) (including heating oil tanks)			X
Unidentified substance containers			X
Waste water			X
Water supplies (potable and process)			X
Wells (irrigation, monitoring, or domestic)			X
Wells (dry)			X
Wells (oil and gas)			X

6.4 RESULTS OF SITE RECONNAISSANCE

Evidence of stressed vegetation, AST's, pits, ponds or lagoons was not observed at the subject site during the site reconnaissance.

7 INTERVIEWS

Key site managers are contacted to obtain current and historical environmental information concerning the subject site. Local government officials were contacted to obtain further information about environmental enforcement actions pending or ongoing at the site and adjacent facilities, or relevant permits (e.g. air quality, well abandonment, etc.) for the site and adjacent facilities. Relevant information obtained is described in Section 4.3.

7.1 INTERVIEW WITH OWNER/MANAGER

The owner was not interviewed

7.2 INTERVIEW WITH OCCUPANTS

There were no site occupants

7.3 INTERVIEW WITH CLIENT/OTHERS

The client was not interviewed

8 EVALUATIONS

Precision Civil Engineering, Inc. performed this ESA of the subject site in conformance with the scope and limitations of ASTM Practice E1527-13. In summary, PCE's assessment revealed the following information about the subject site:

8.1 FINDINGS

The following sections describe PCE's findings and provide general background information about the site. Findings include RECs, historical RECs and notation of de minimus quantities, as applicable to the site.

8.1.1. Background Information

The subject site (APN 504-050-02 and 504-130-12) is composed of a fallow agricultural field.

The depth to groundwater was depicted at approximately 100 feet below ground surface and the estimated direction of groundwater flow is to the north.

According to the Soil Survey, there is one soil type depicted onsite:

Onsite soil is listed as Hanford. Hanford is described as having moderate infiltration rates. Soils are fine sandy loam, Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Onsite Findings

- The site contained several structures as noted on the aerial photographs and topographic maps. Structures were noted on the site between the years 1937 and 1984.
- The site is a fallow agricultural field.
- Trash and debris is located throughout the site, the highest concentrations of debris are in the northeastern portions of the site. The debris consists of household trash, concrete debris, wood debris, and yard debris.
- A large soil pile is located in the eastern portion of the site. The smaller soil piles west of the basin do not appear to be from the site. The larger soil pile appears to be native to the site due to excavating the onsite basin.

- A dry basin is located adjacent to the eastern border of the site.
- Concrete debris is located in the northwestern border of the site.
- A power line tower is located on the northwestern corner of the site.

8.1.2. Off-Site Findings

- PG&E Herndon Substation, located at 7430 N Weber Avenue, west of the site appears on the FINDS database.
- Riverside Golf Course, located at 7672 N Josephine, approximately 1500 feet to the east southeast of the site appears on the LUST and HIST CORTESE databases.
- Curtis Towing, located at 6944 Van Buren Avenue, approximately 1700 feet south southwest of the site appears on the LUST database.

8.2 CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the approximately 14.32-acre site.

In summary, this assessment has revealed no evidence of recognized environmental conditions in connection with the property subject site except the following:

- The site contained several structures as noted on the aerial photographs and topographic maps. Structures were noted on the site between the years 1937 and 1984. Septic systems may have been associated with the former onsite residences. PCE recommends that the septic tanks be abandoned in accordance with local, state and federal regulations.
- The site is a fallow agricultural field. On properties with a history of agricultural use, many underground pipelines may exist. Subsurface exploration is not a part of a typical Phase I Environmental Site Assessment scope of work. In the event that any subsurface structures are encountered during site development or excavation onsite, care should be exercised in determining whether or not the subsurface structures contain asbestos. If they contain asbestos, they should be removed, handled, transported, and disposed of in accordance with applicable local, state, and federal laws and regulations. Additionally, if suspect materials are encountered, the signatories of this report should be notified.

- Trash and debris is located throughout the site, the highest concentrations of debris are in the northeastern portions of the site. The debris consists of household trash, concrete debris, wood debris, and yard debris. Concrete debris is located in the northwestern border of the site. No staining, leakage or stressed vegetation was noted in association with any of the debris. The debris should be removed prior to development. If any staining or hazardous materials are encountered during removal, the signatories of this report should be contacted.
- A large soil pile is located in the eastern portion of the site. The smaller soil piles west of the basin do not appear to be from the site. The larger soil pile appears to be native to the site due to excavating the onsite basin. No hazardous materials, staining, leakage, odors or stressed vegetation were associated with the soil and is not currently expected to have an adverse impact on the site.
- A dry basin is located adjacent to the eastern border of the site. No hazardous materials, staining, leakage, odors or stressed vegetation were associated with the basin and is not currently expected to have an adverse impact on the site.
- A power line tower is located on the northwestern corner of the site. No hazardous materials, staining, leakage, odors or stressed vegetation were associated with the tower and is not currently expected to have an adverse impact on the site.
- There are three off-site facilities listed within the ASTM regulatory agency databases researched by EDR. Based on the databases listed, limited extent of the releases and distance from the site, the following three locations are not expected to have an adverse impact on the subject site: PG&E Herndon Substation, located at 7430 N Weber Avenue, Riverside Golf Course, located at 7672 N Josephine, Curtis Towing, located at 6944 Van Buren Avenue.

8.3 DATA FAILURE

Although PCE attempted to obtain reasonably ascertainable information regarding the site, some information was either not received or not readily available at the time of this report. Therefore, consistent with ASTM E 1527-13, the following data failure (date gaps) has been identified:

- PCE contacted the Fresno County Office of Emergency Services. Responses from this agency were not received prior to production of this report. If a response from this agency changes our conclusions or recommendations, we will notify the client.

No other “non-scope” considerations, such as asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources,

endangered species, indoor air quality and high voltage power lines were considered for this report.

9 REFERENCES

Environmental Data Resources (EDR), 2016, The EDR Radius Map with GeoCheck®, Tapestry 3, 7308 N Thiele Ave, Fresno, Ca 93722, Inquiry Number: 4994433.2S, July 14, 2017.

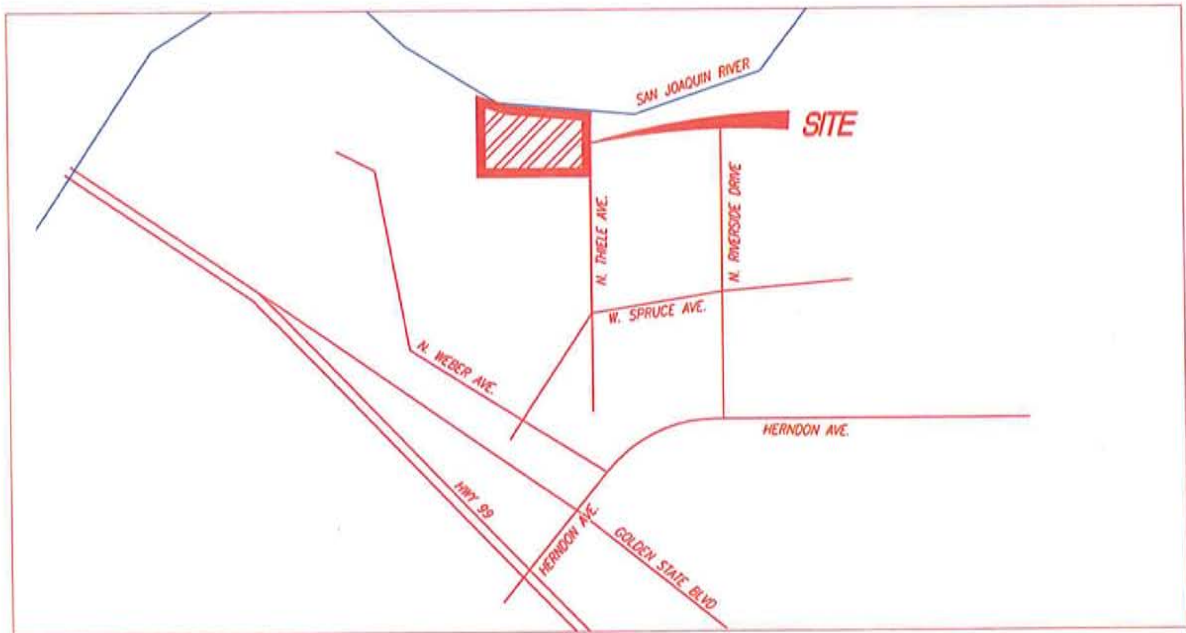
Geologic Map of California, State of California Department of Conservation 1977; (Scale: 1 inch = 12 miles).

United States Geologic Survey (USGS), 7 ½ -Minute Series (Topographic) Herndon Quadrangle Map, dated 2012.

Additional sources may be referenced separately in the report text.

APPENDIX A

PLATES



EXHIBIT

DESCRIPTION:
SITE VICINITY MAP

PROJECT NAME:

TAPESTRY 3

PLATE 1

07-18-2017

17-141

P:\0218_3D PROJECT\2017\17-141 TAPESTRY 3\17-141 TAPESTRY 3.DWG | 1/20/2017 9:25:21 AM



map
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LEGEND

-  SITE
-  DEBRIS PILES
-  SOIL PILES

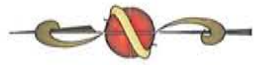


EXHIBIT
DESCRIPTION:
SITE MAP

PROJECT NAME:
TAPESTRY 3
07/18/2017 17-141

PLATE 2



LOOKING WEST FROM THE NORTHEAST CORNER OF THE SITE.



LOOKING SOUTHWEST FROM THE NORTHEAST CORNER OF THE SITE.



LOOKING EAST FROM THE NORTHWEST CORNER OF THE SITE.



LOOKING EAST FROM THE SOUTHWEST CORNER OF THE SITE.



LOOKING NORTHEAST ACROSS THE SITE FROM THE SOUTHWEST CORNER OF THE SITE.



LOOKING NORTH FROM THE SOUTHEAST CORNER OF THE SITE.

\\PC01\30\PROJECTS\2017\17-44\REPORTS\PHASE 1\TAPESTRY 3\17-441 PHASE 1 EDP-001.DWG 7/18/2017 10:17:11 AM



EXHIBIT
DESCRIPTION:
SITE PHOTOGRAPHS

PROJECT NAME:

TAPESTRY 3

PLATE 3

07-18-2017

17-141

APPENDIX B

HISTORICAL RESEARCH DOCUMENTATION

Tapestry 3

7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.6
July 14, 2017

The EDR Property Tax Map Report



6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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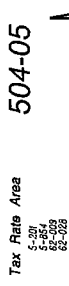
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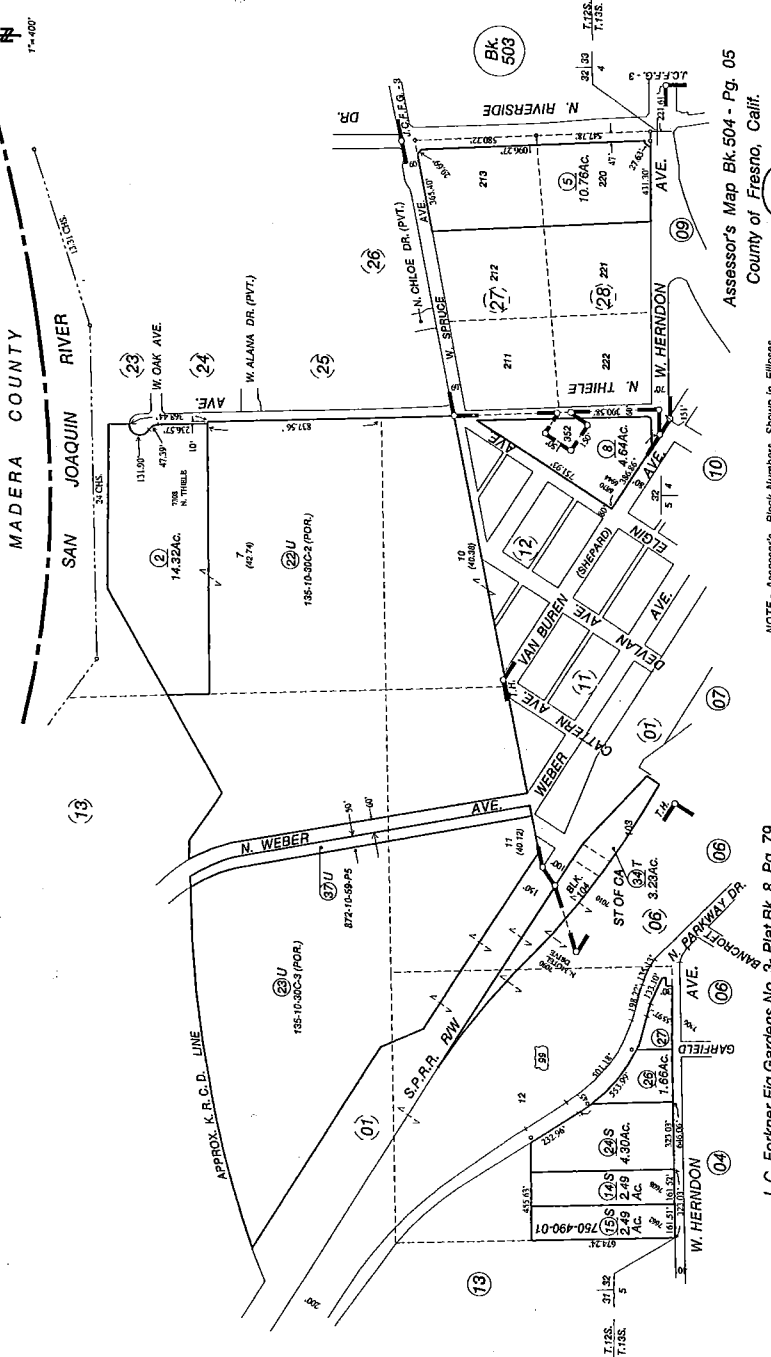
SUBDIVIDED LAND & POR. SEC. 32, T.12S., R.19E., M.D.B. & M.

Tax Rate Area 504-05

5-201
62-508
62-528
62-528



NOTE ...
This map is for Assessment purposes only.
It is not to be construed as portraying
legal ownership or divisions of land for
purposes of zoning or subdivision law.



J. C. Forkner Fig Gardens No. 3- Plat Bk. 8, Pg. 79
Town of Herndon - Misc. Bk. 1, Pg. 27

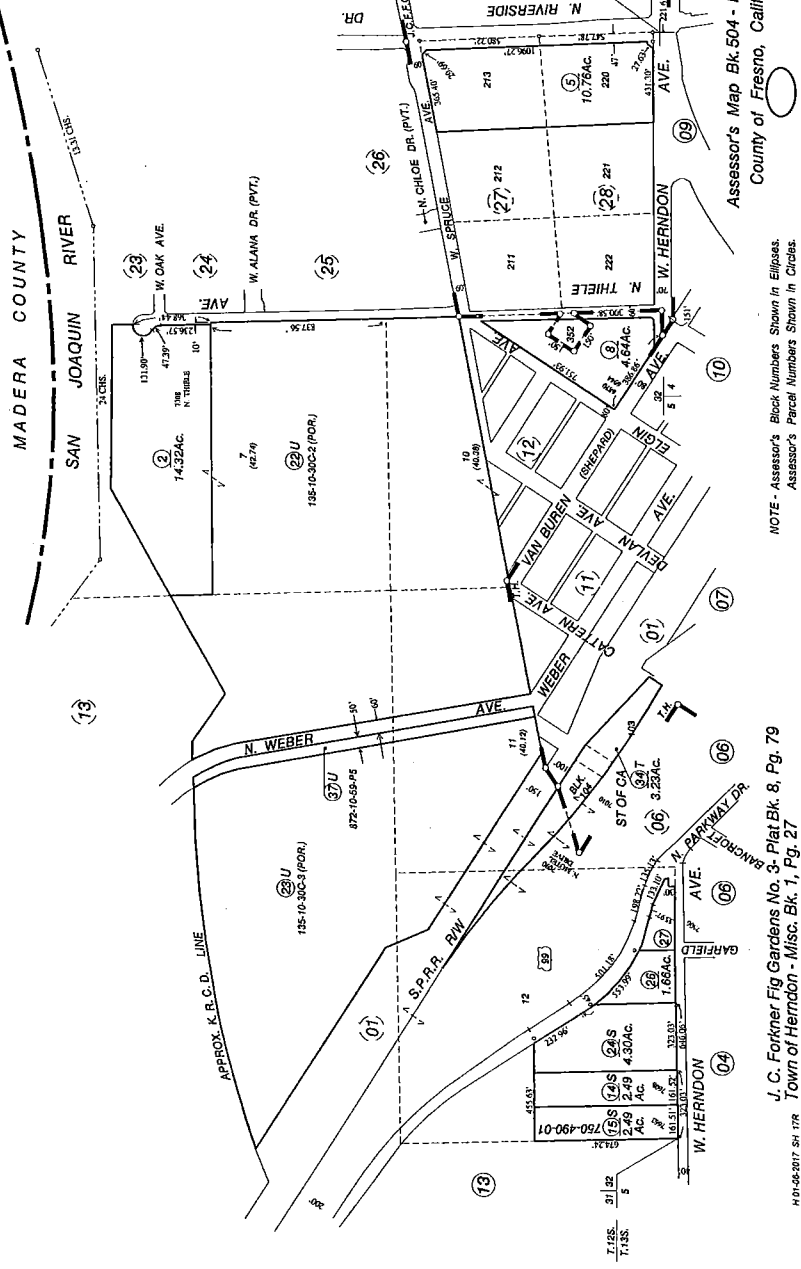
Assessor's Map Bk. 504 - Pg. 05
County of Fresno, Calif.

NOTE - Assessor's Block Numbers Shown in Ellipses.
Assessor's Parcel Numbers Shown in Circles.

H-01-08-2017 SH 17R

SUBDIVIDED LAND & POR. SEC. 32, T.12S., R.19E., M.D.B. & M. Tax Rate Area 504-05

NOTE ...
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J. C. Forkner Fig Gardens No. 3- Plat Bk. 8, Pg. 79
 Town of Herndon - Misc. Bk. 1, Pg. 27

Assessor's Map Bk. 504 - Pg. 05
 County of Fresno, Calif.

Tapestry 3
7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.12
July 17, 2017

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

07/17/17

Site Name:

Tapestry 3
7308 N Thiele Ave
Fresno, CA 93722
EDR Inquiry # 4994433.12

Client Name:

Precision Civil Engineering
1234 O Street
Fresno, CA 93721-1830
Contact: Ryan Brosius



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:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1998	1"=500'	Acquisition Date: August 17, 1998	USGS/DOQQ
1987	1"=500'	Flight Date: June 17, 1987	USDA
1984	1"=500'	Flight Date: June 09, 1984	USDA
1979	1"=500'	Flight Date: September 04, 1979	USDA
1973	1"=500'	Flight Date: May 08, 1973	USDA
1967	1"=500'	Flight Date: May 03, 1967	USDA
1962	1"=500'	Flight Date: August 09, 1962	USGS
1957	1"=500'	Flight Date: August 09, 1957	USDA
1950	1"=500'	Flight Date: February 07, 1950	USDA
1946	1"=500'	Flight Date: May 04, 1946	USGS
1942	1"=500'	Flight Date: May 19, 1942	USGS
1937	1"=500'	Flight Date: October 06, 1937	USGS

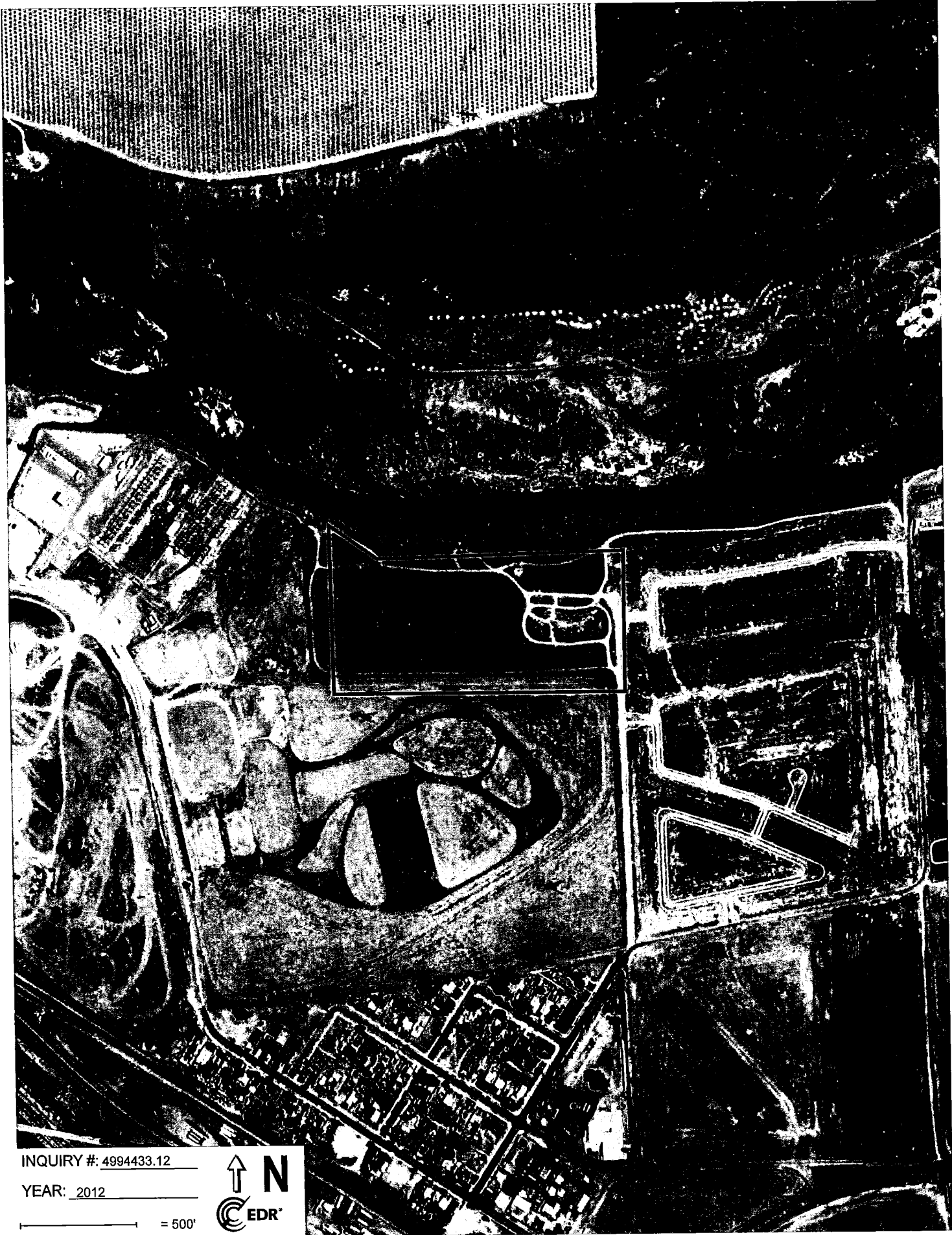
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INQUIRY #: 4994433.12

YEAR: 2012

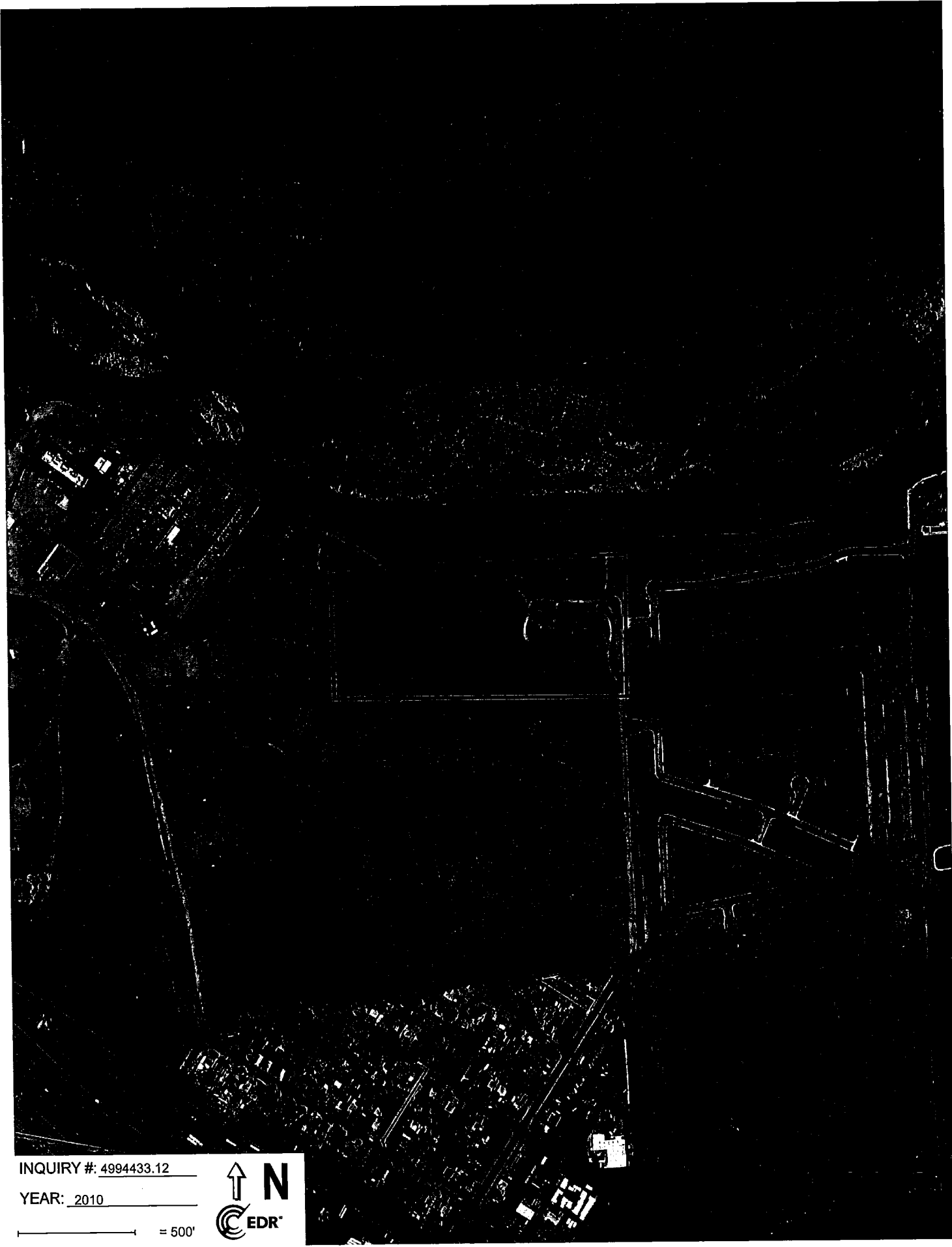
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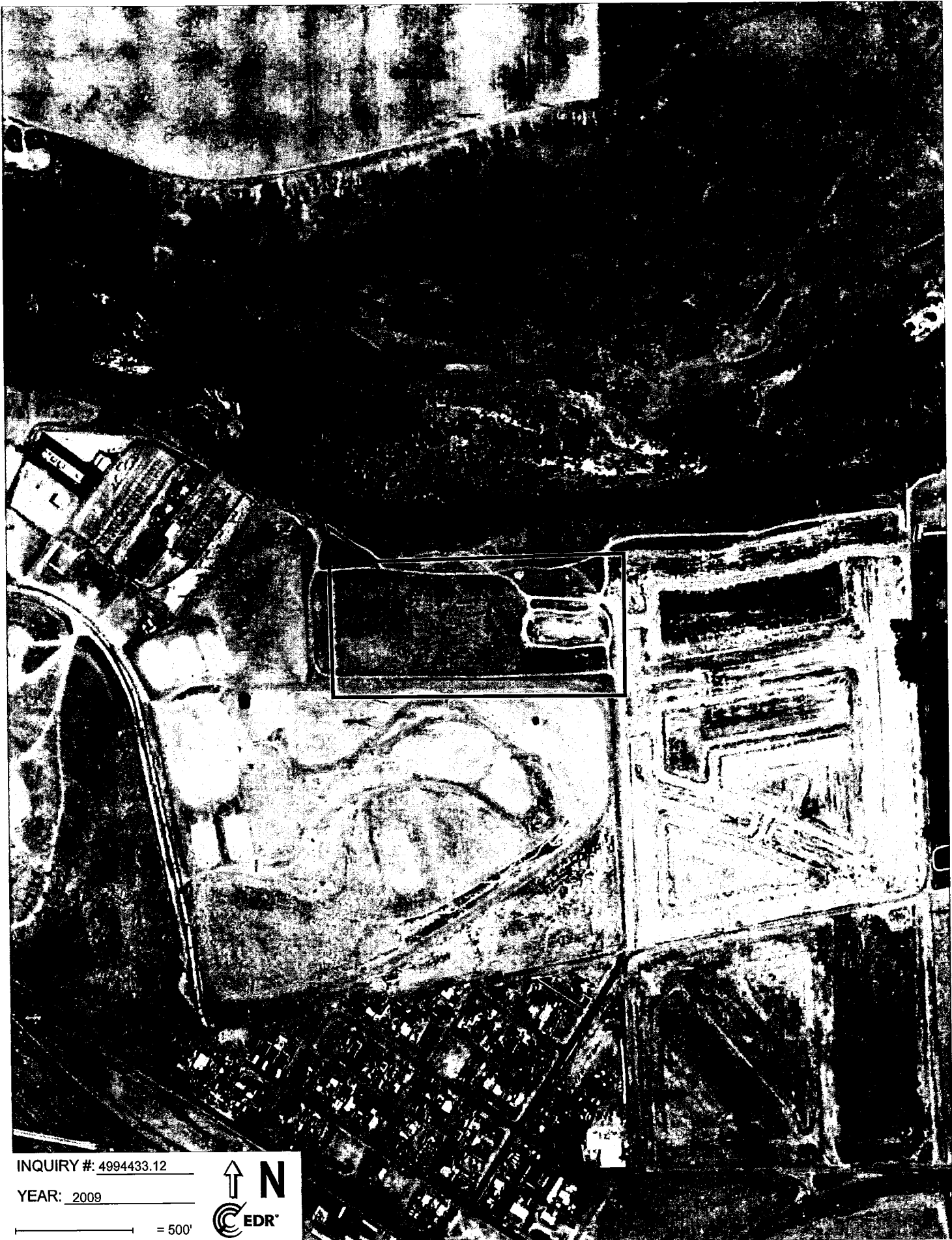


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YEAR: 2010

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INQUIRY #: 4994433.12

YEAR: 2009

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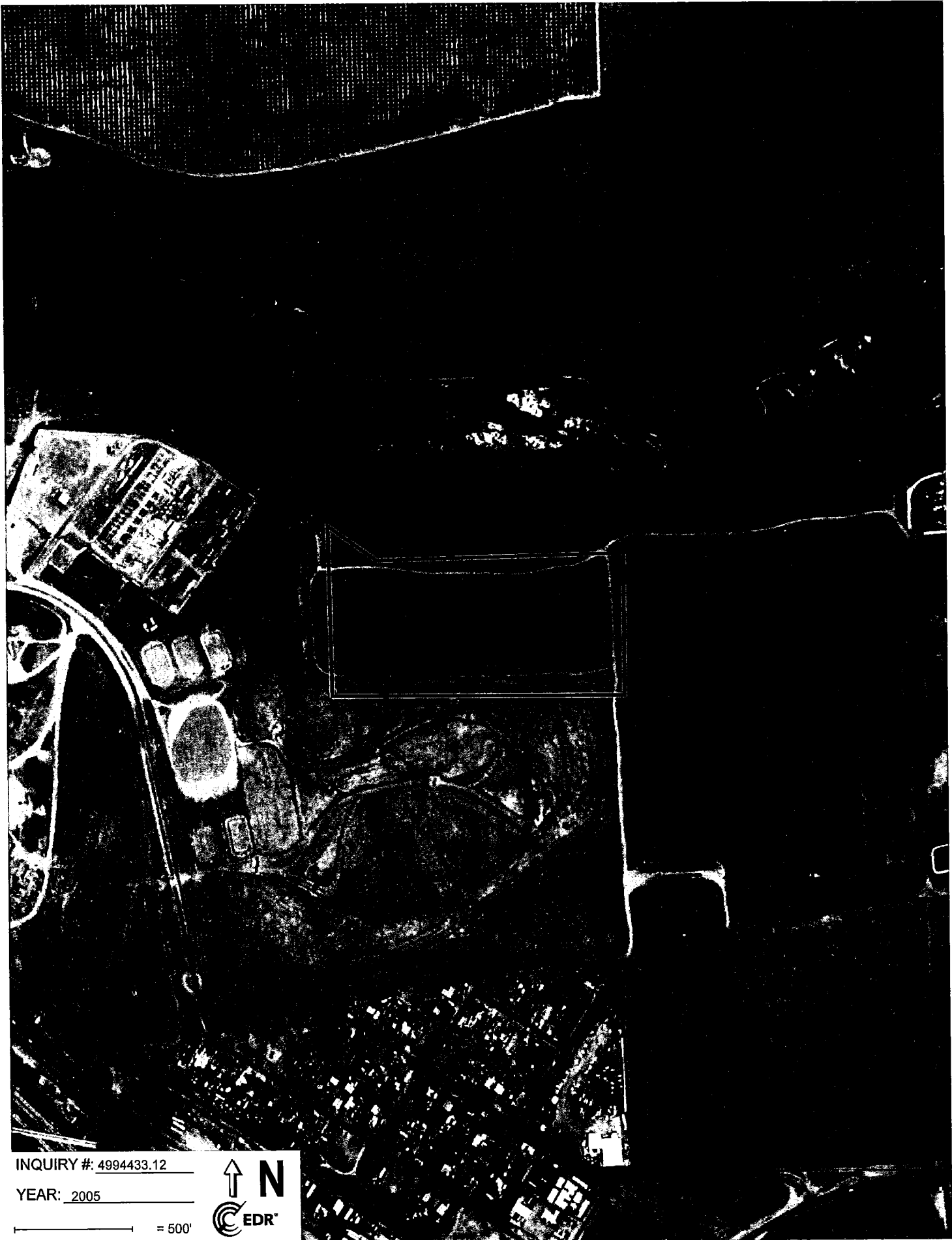


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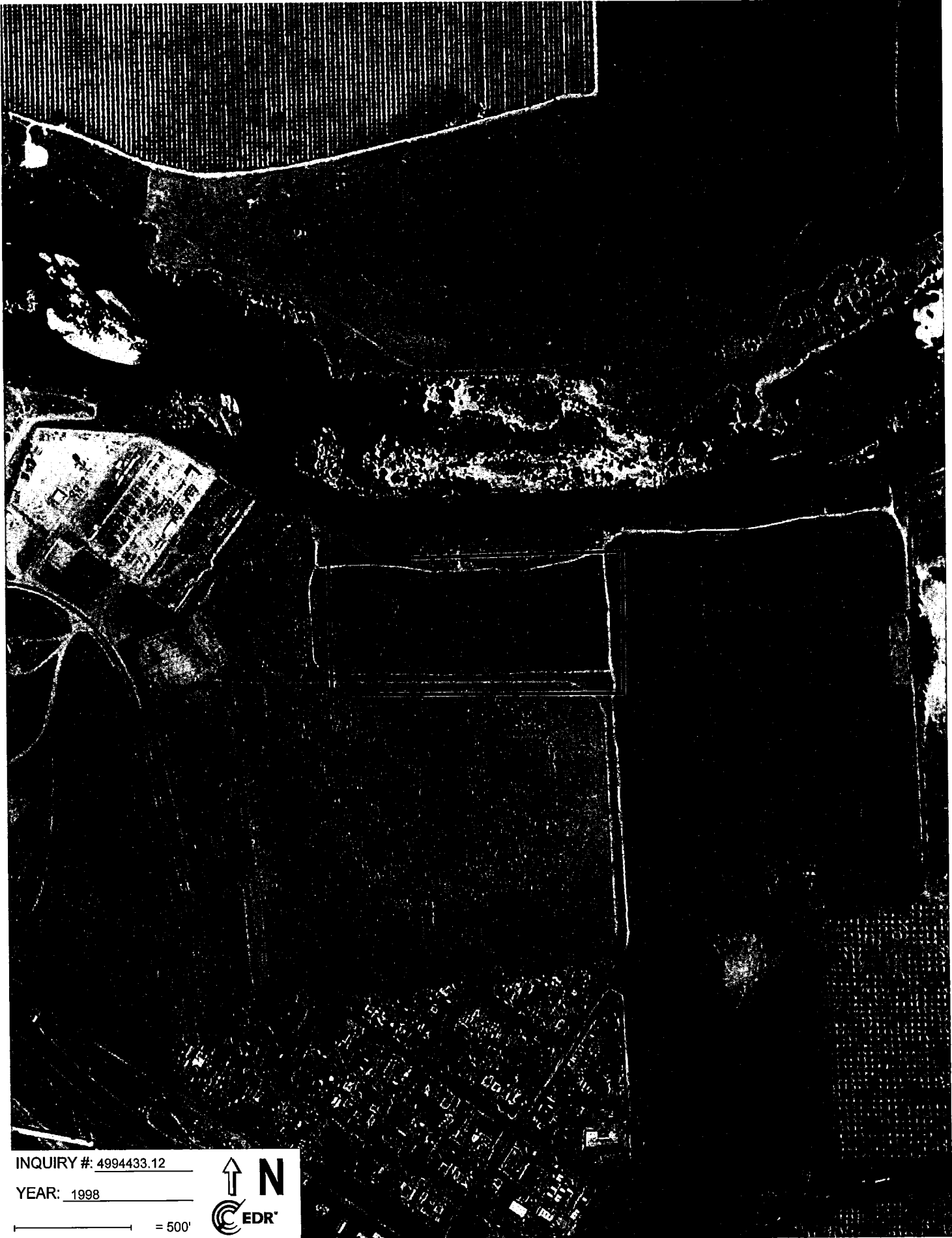


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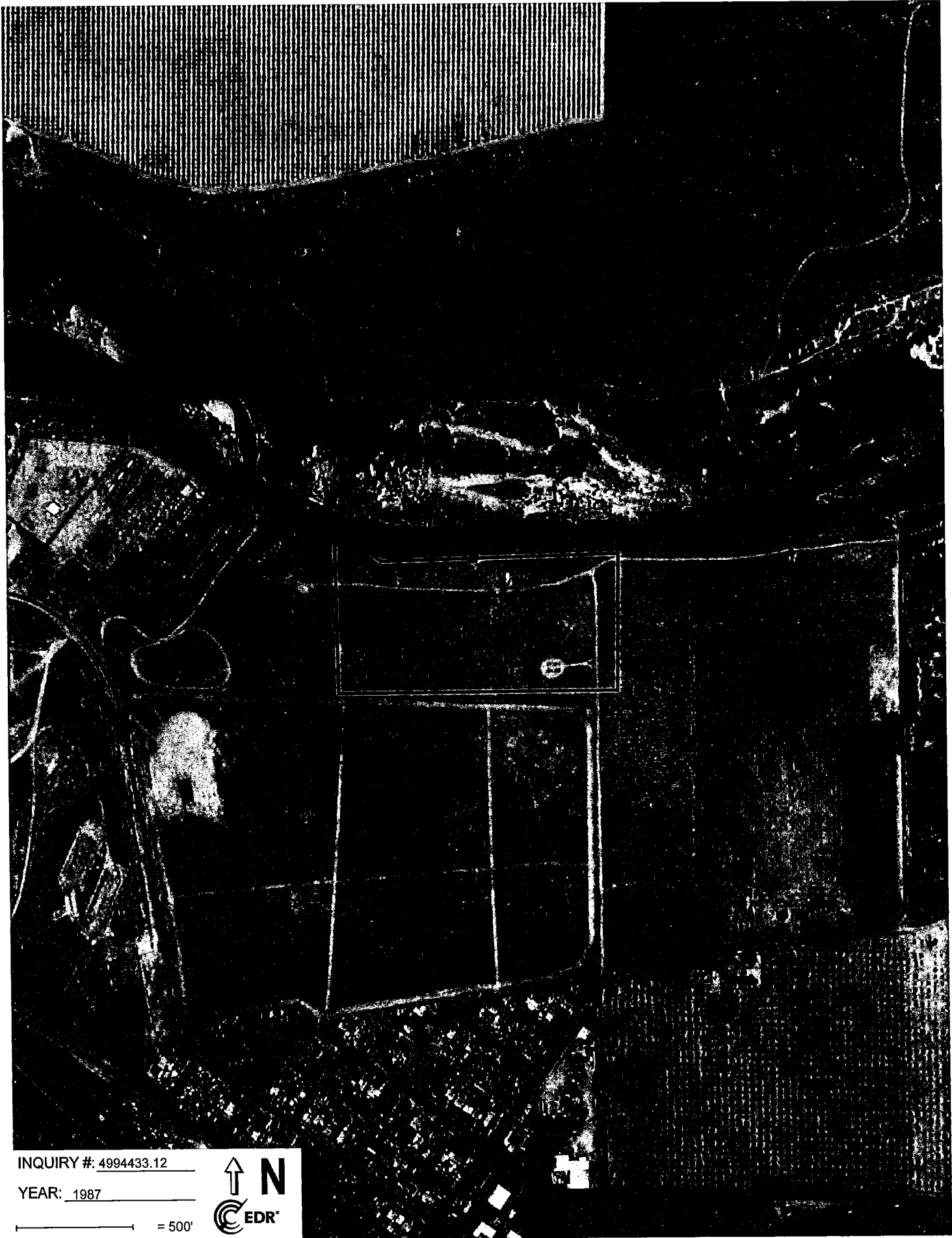


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YEAR: 1998

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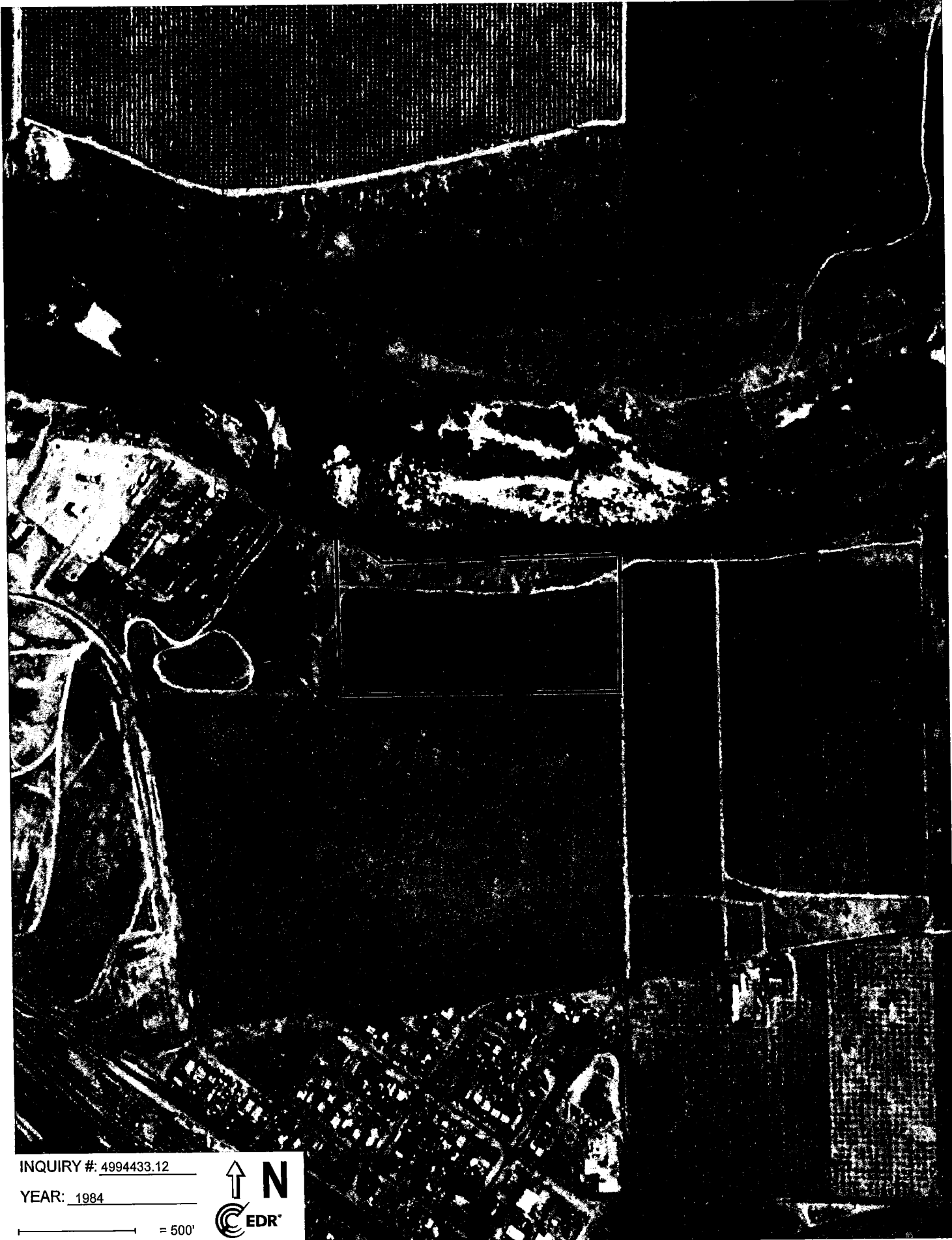


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YEAR: 1987

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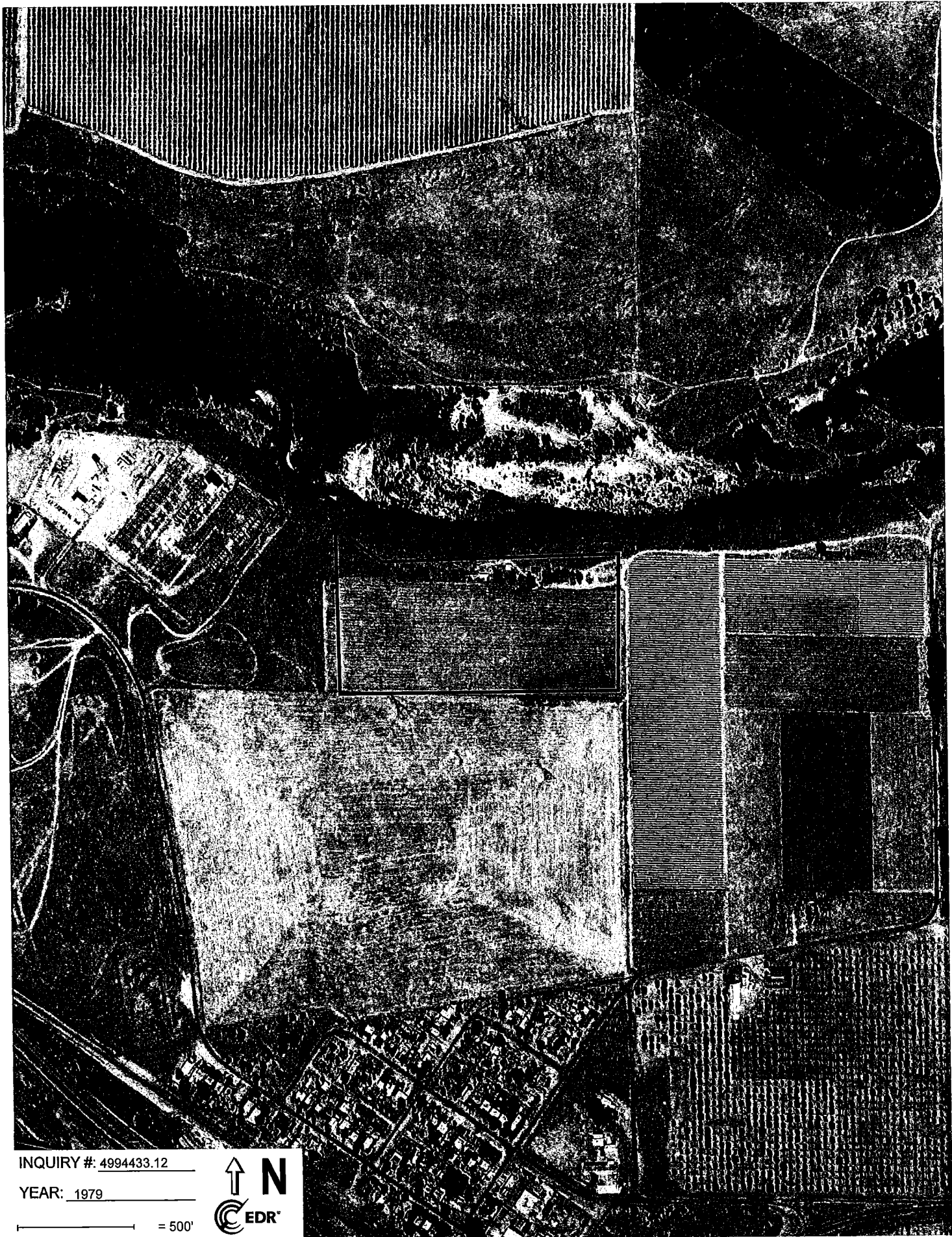


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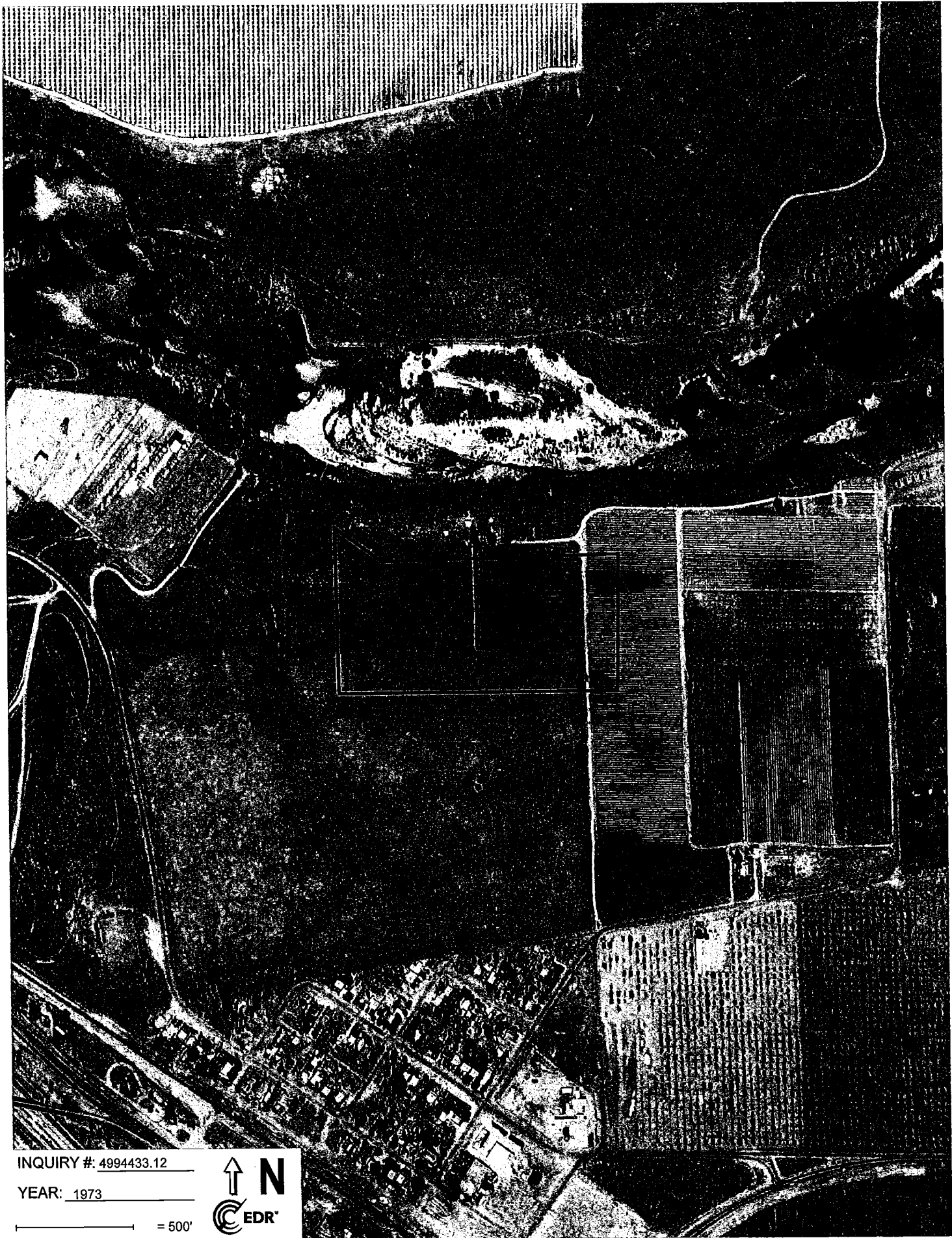


INQUIRY #: 4994433.12

YEAR: 1979

— = 500'





INQUIRY #: 4994433.12

YEAR: 1973

— = 500'



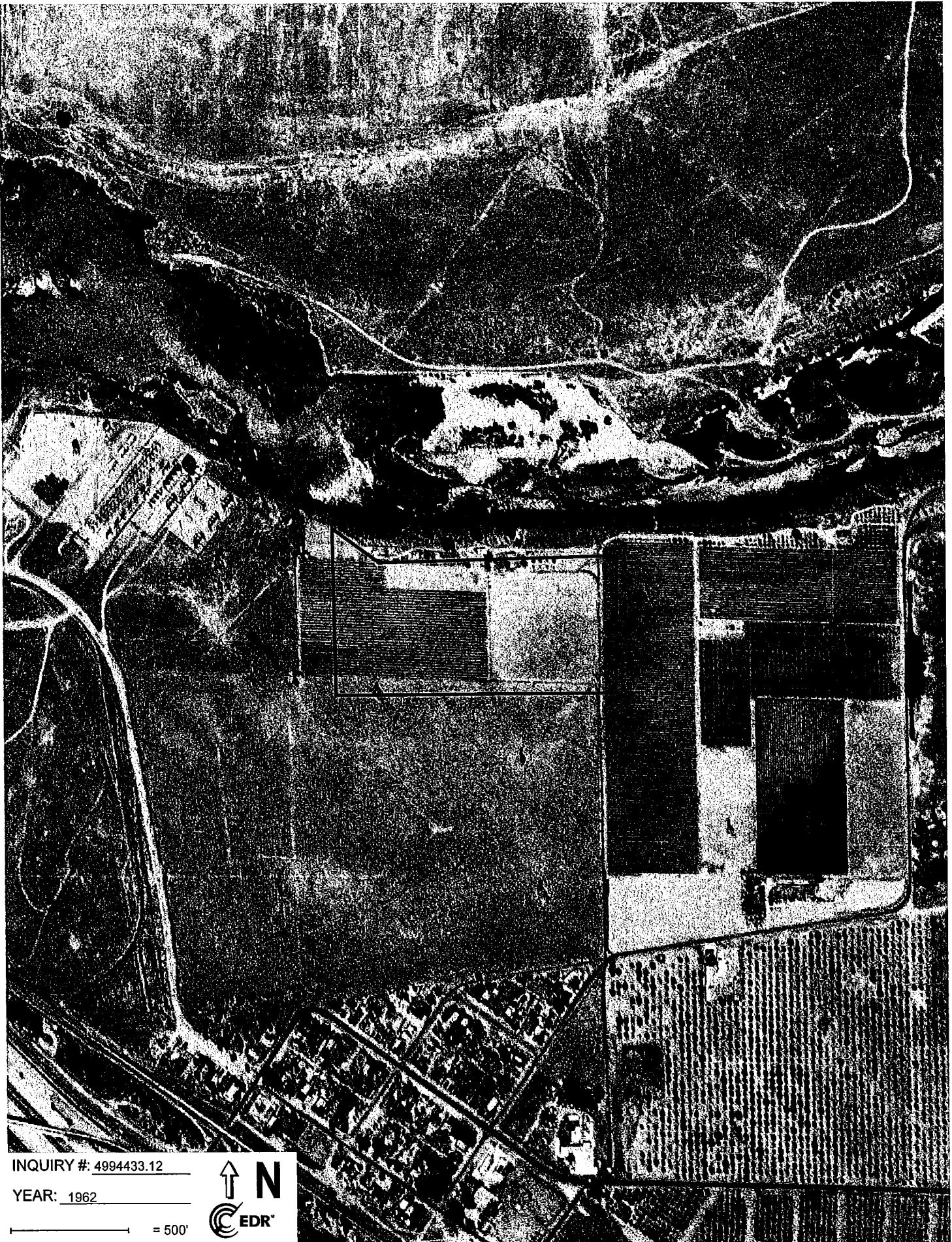


INQUIRY #: 4994433.12

YEAR: 1967

— = 500'





INQUIRY #: 4994433.12

YEAR: 1962

— = 500'





INQUIRY #: 4994433.12

YEAR: 1957

— = 500'



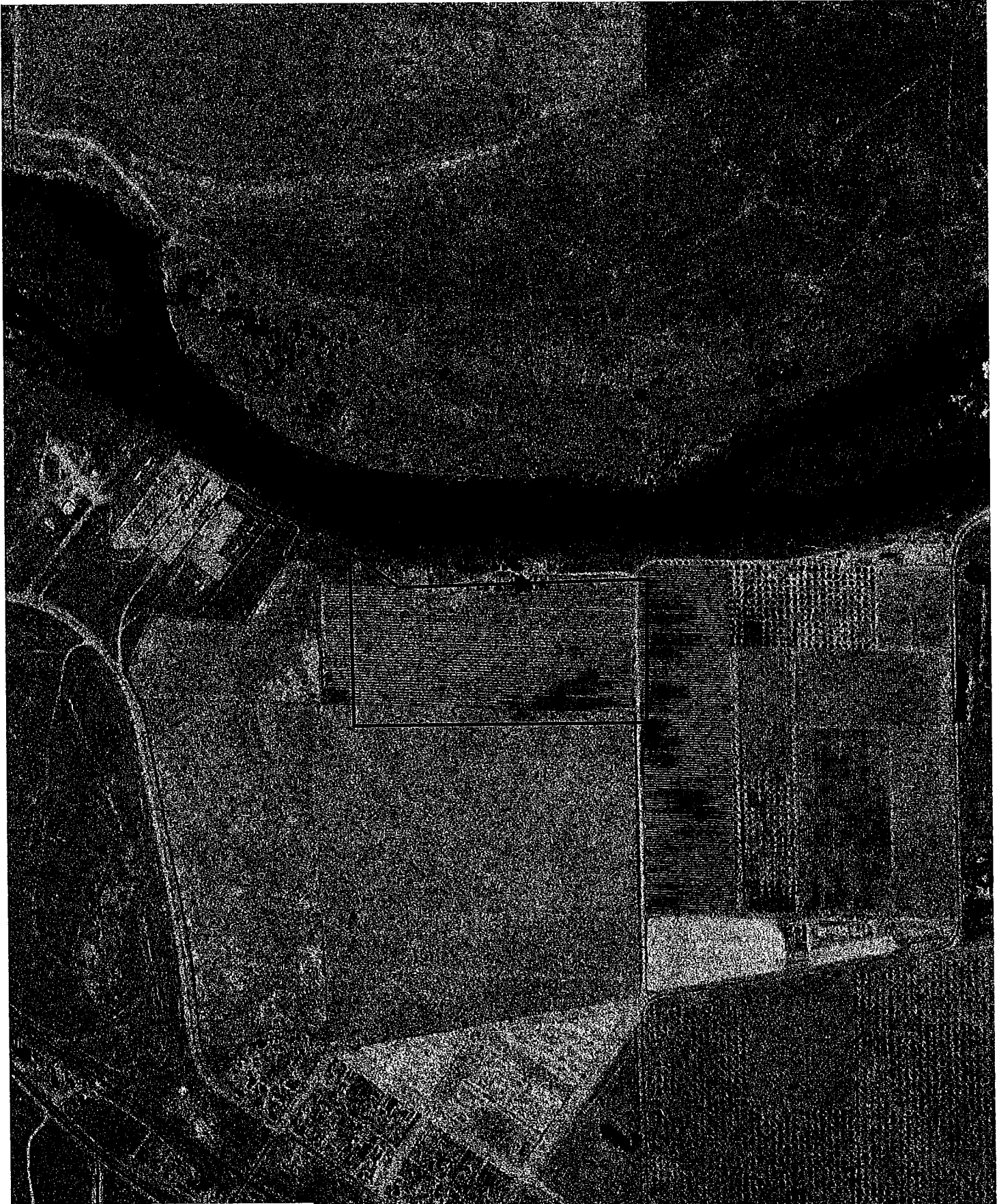


INQUIRY #: 4994433.12

YEAR: 1950

— = 500'



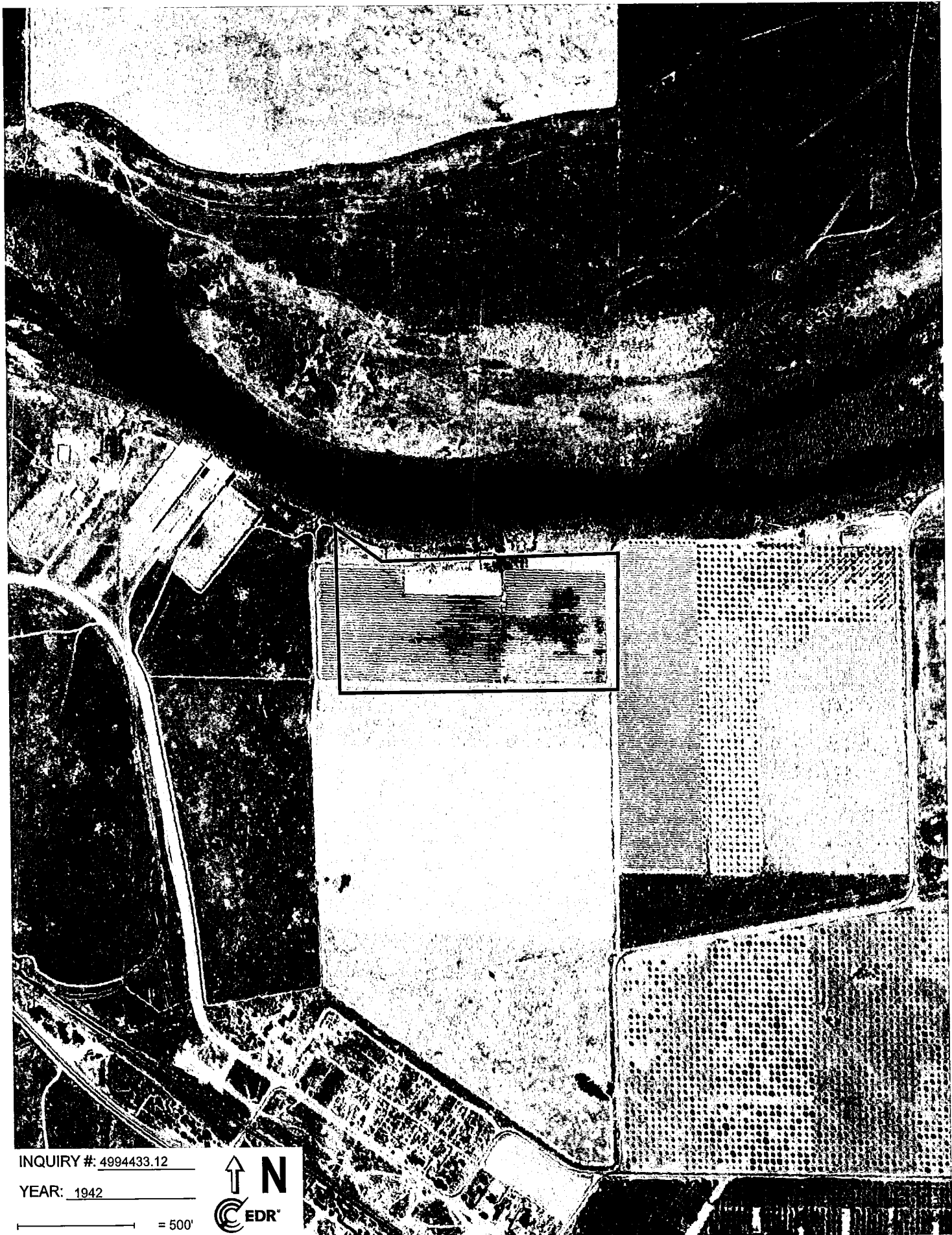


INQUIRY #: 4994433.12

YEAR: 1946

— = 500'





INQUIRY #: 4994433.12

YEAR: 1942

— = 500'





INQUIRY #: 4994433.12

YEAR: 1937

— = 500'



Tapestry 3
7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.3
July 14, 2017

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

07/14/17

Site Name:

Tapestry 3
7308 N Thiele Ave
Fresno, CA 93722
EDR Inquiry # 4994433.3

Client Name:

Precision Civil Engineering
1234 O Street
Fresno, CA 93721-1830
Contact: Ryan Brosius



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Precision Civil Engineering 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 # 72BF-4CDA-9377

PO # NA

Project Tapestry 3

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 #: 72BF-4CDA-9377

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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Tapestry 3

7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.5
July 14, 2017

The EDR-City Directory Abstract

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Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract 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 Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1922 through 2014. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
2014	EDR Digital Archive	-	-	-	-
2010	EDR Digital Archive	-	-	-	-
2005	EDR Digital Archive	-	-	-	-
2002	R.L. Polk & Co Publishers	-	-	-	-
1996	R.L. Polk & Co Publishers	-	-	-	-
1990	R.L. Polk & Co Publishers	-	-	-	-
1986	R.L. Polk & Co Publishers	-	-	-	-
1980	R.L. Polk & Co Publishers	-	-	-	-
1975	R.L. Polk & Co Publishers	-	-	-	-
1970	R.L. Polk & Co Publisher	-	-	-	-
1965	R.L. Polk & Co Publisher	-	-	-	-
1962	Pacific Telephone	-	-	-	-

EXECUTIVE SUMMARY

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
1958	R.L. Polk & Co Publishers	-	-	-	-
1952	R.L. Polk & Co Publishers	-	-	-	-
1947	R.L. Polk & Co Publishers	-	-	-	-
1942	R.L. Polk & Co Publishers	-	-	-	-
1937	R.L. Polk & Co Publishers	-	-	-	-
1932	R.L. Polk & Co Publishers	-	-	-	-
1927	R.L. Polk & Co Publishers	-	-	-	-
1922	Polk: Husted Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

7308 N Thiele Ave
Fresno, CA 93722

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched

7308 N Thiele Ave

Address Not Identified in Research Source

2014, 2010, 2005, 2002, 1996, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922

Tapestry 3
7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.4
July 14, 2017

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

07/14/17

Site Name:

Tapestry 3
7308 N Thiele Ave
Fresno, CA 93722
EDR Inquiry # 4994433.4

Client Name:

Precision Civil Engineering
1234 O Street
Fresno, CA 93721-1830
Contact: Ryan Brosius



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Precision Civil Engineering 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. EDR's 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: Tapestry 3

Coordinates:

Latitude: 36.843347 36° 50' 36" North
Longitude: -119.917279 -119° 55' 2" West
UTM Zone: Zone 11 North
UTM X Meters: 239868.61
UTM Y Meters: 4081467.56
Elevation: 296.94' above sea level

Maps Provided:

- 2012
- 1978
- 1965
- 1964
- 1947
- 1946
- 1923

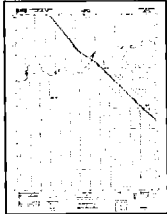
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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

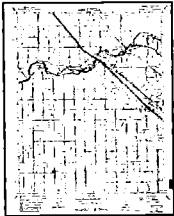
2012 Source Sheets



Herndon

7.5-minute, 24000

1978 Source Sheets



Herndon

7.5-minute, 24000
Aerial Photo Revised 1962

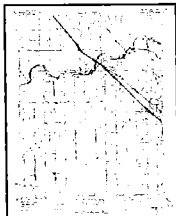
1965 Source Sheets



Herndon

15-minute, 62500

1964 Source Sheets



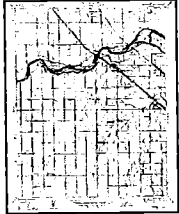
Herndon

7.5-minute, 24000
Aerial Photo Revised 1962

Topo Sheet Key

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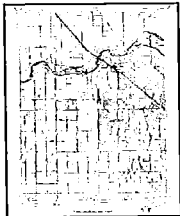
1947 Source Sheets



Herndon

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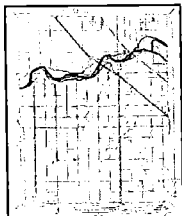
1946 Source Sheets



Herndon

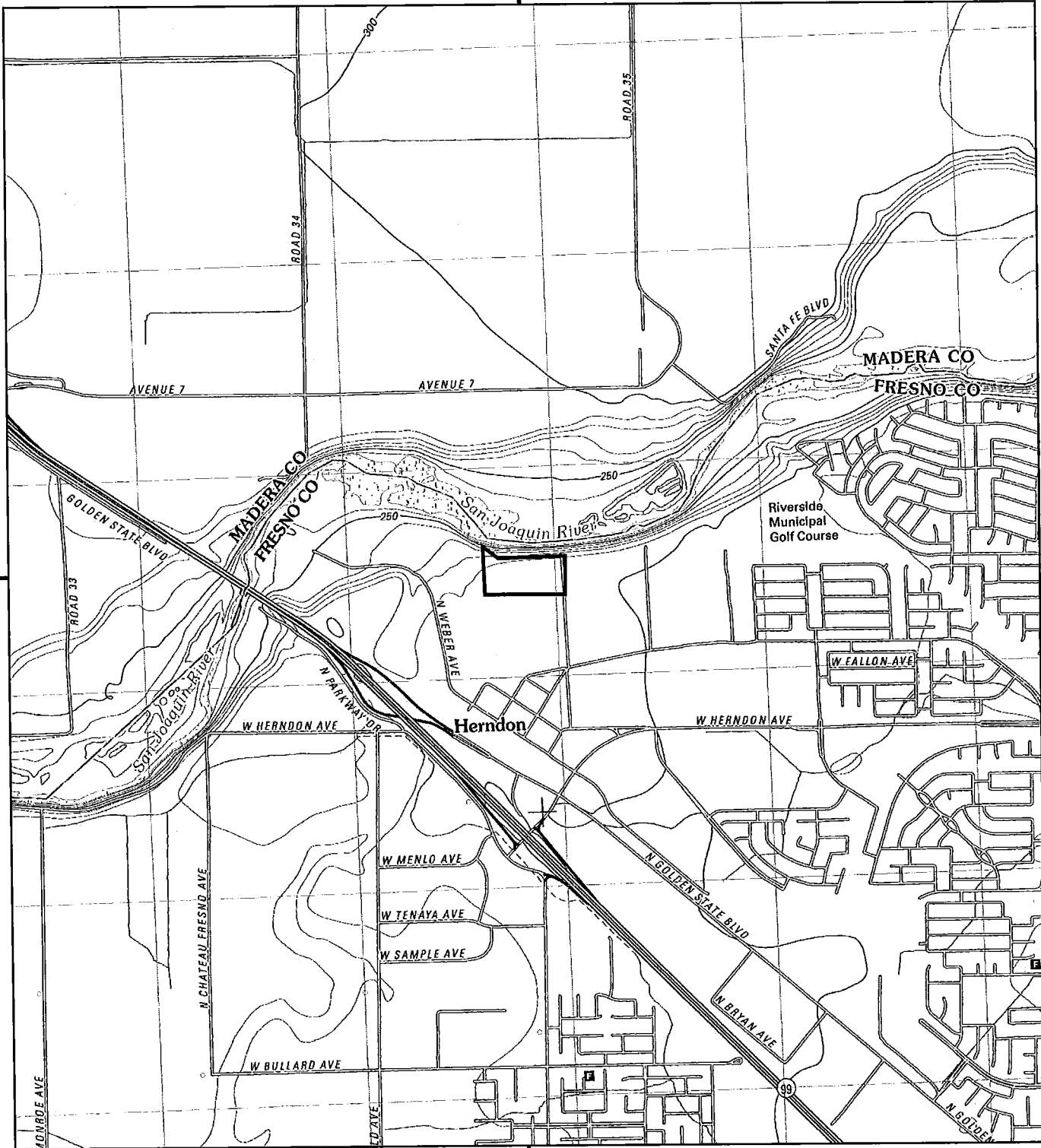
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1923 Source Sheets

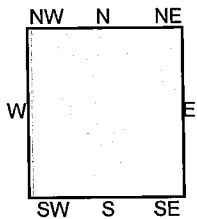
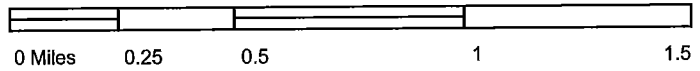


Herndon

7.5-minute, 31680



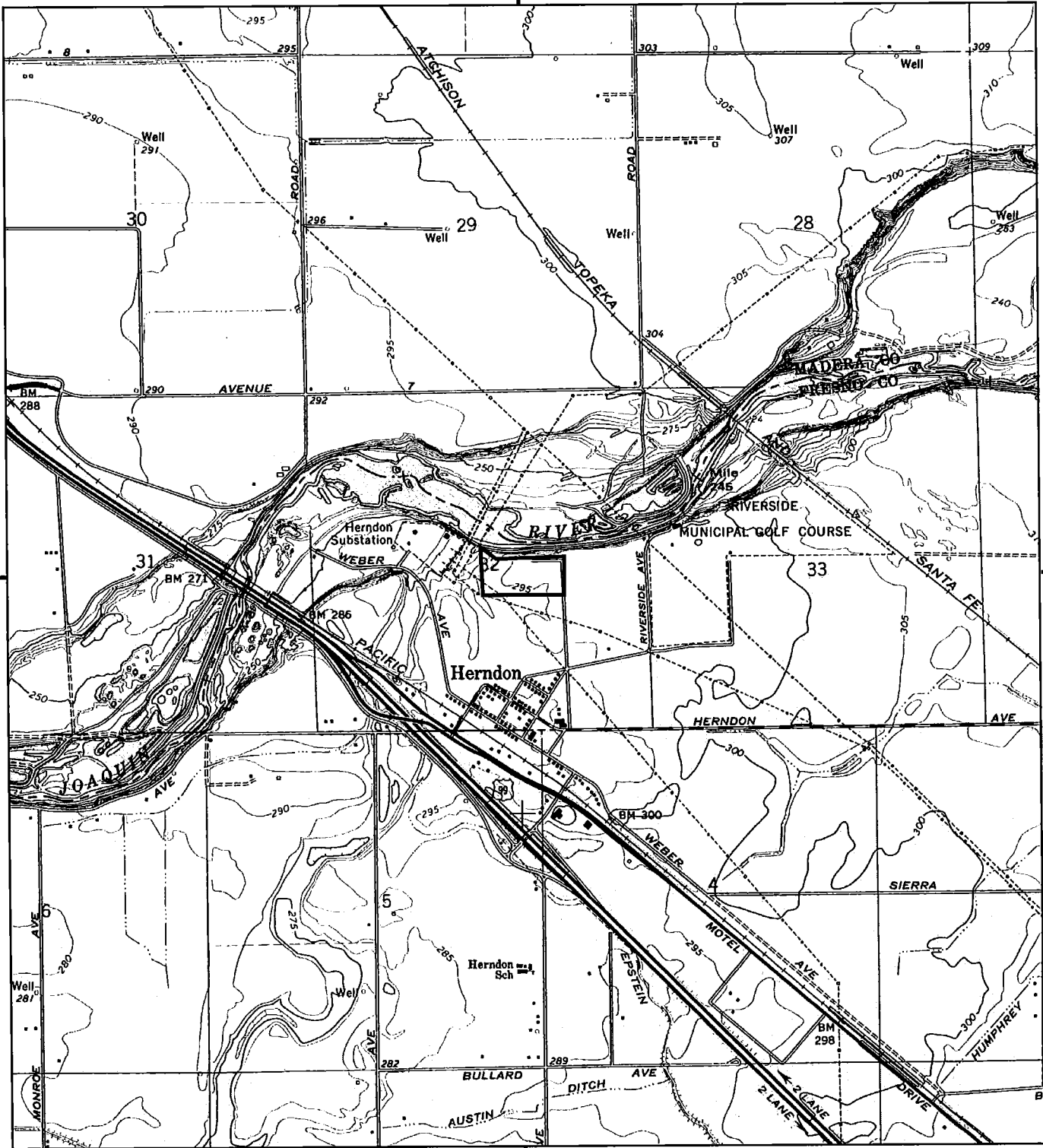
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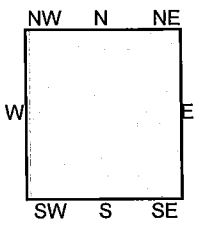
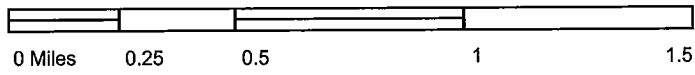
TP, Herndon, 2012, 7.5-minute

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering





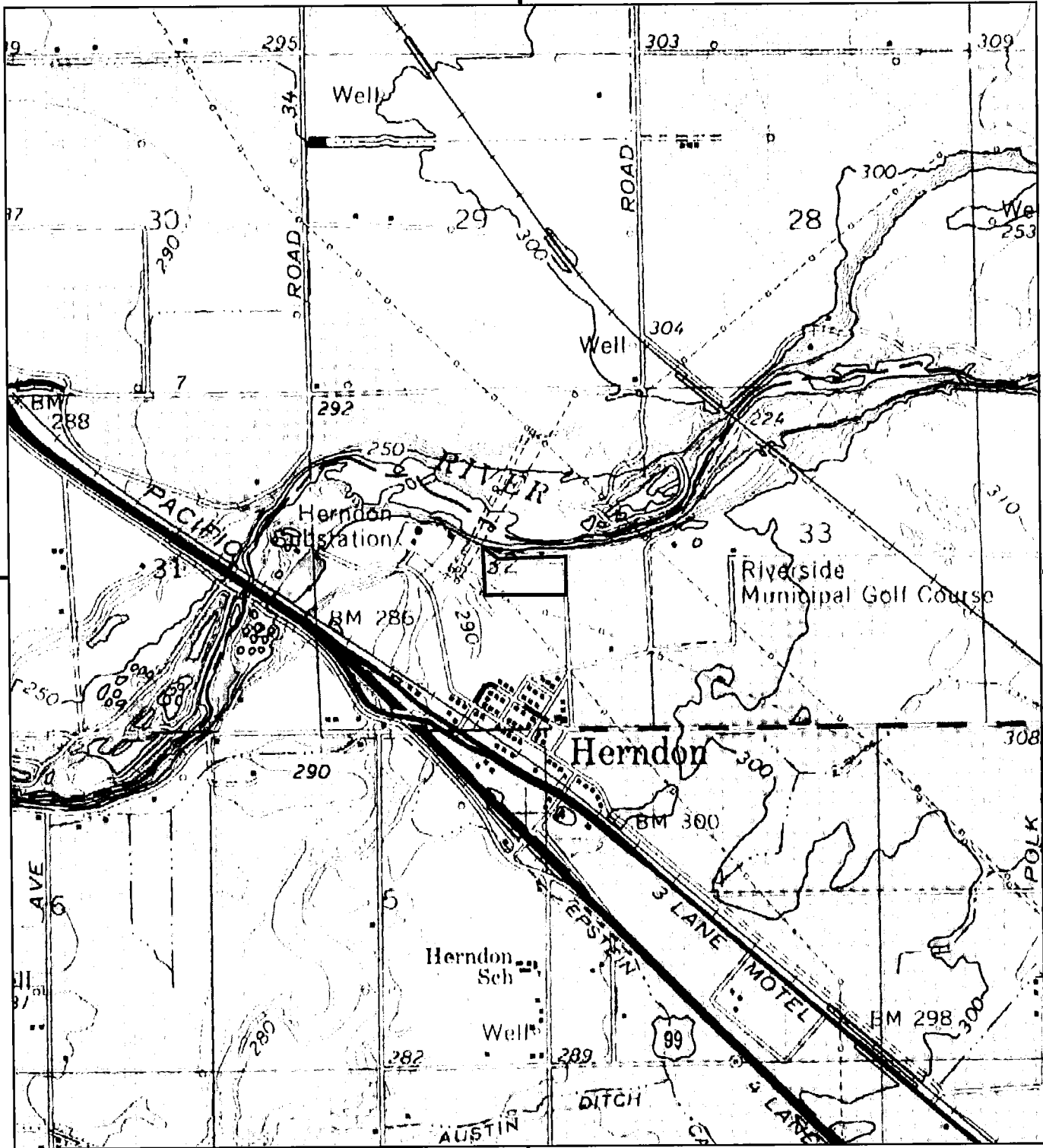
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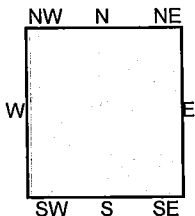
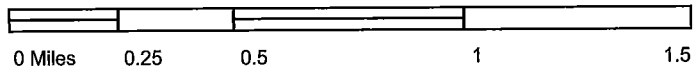
TP, Herndon, 1978, 7.5-minute

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering





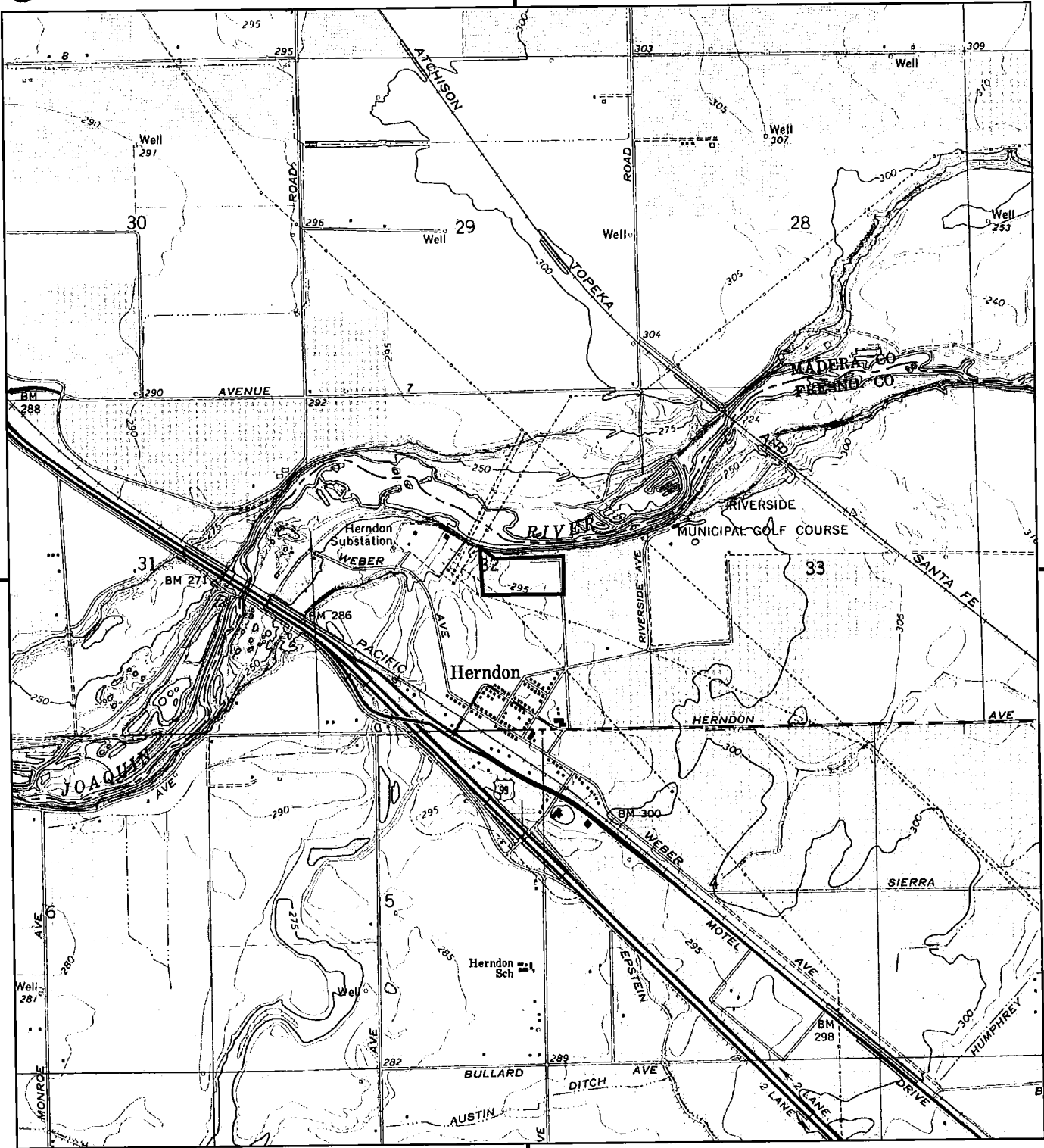
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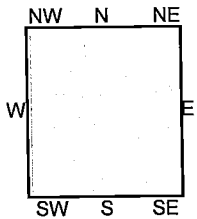
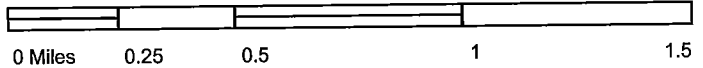
TP, Herndon, 1965, 15-minute

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering





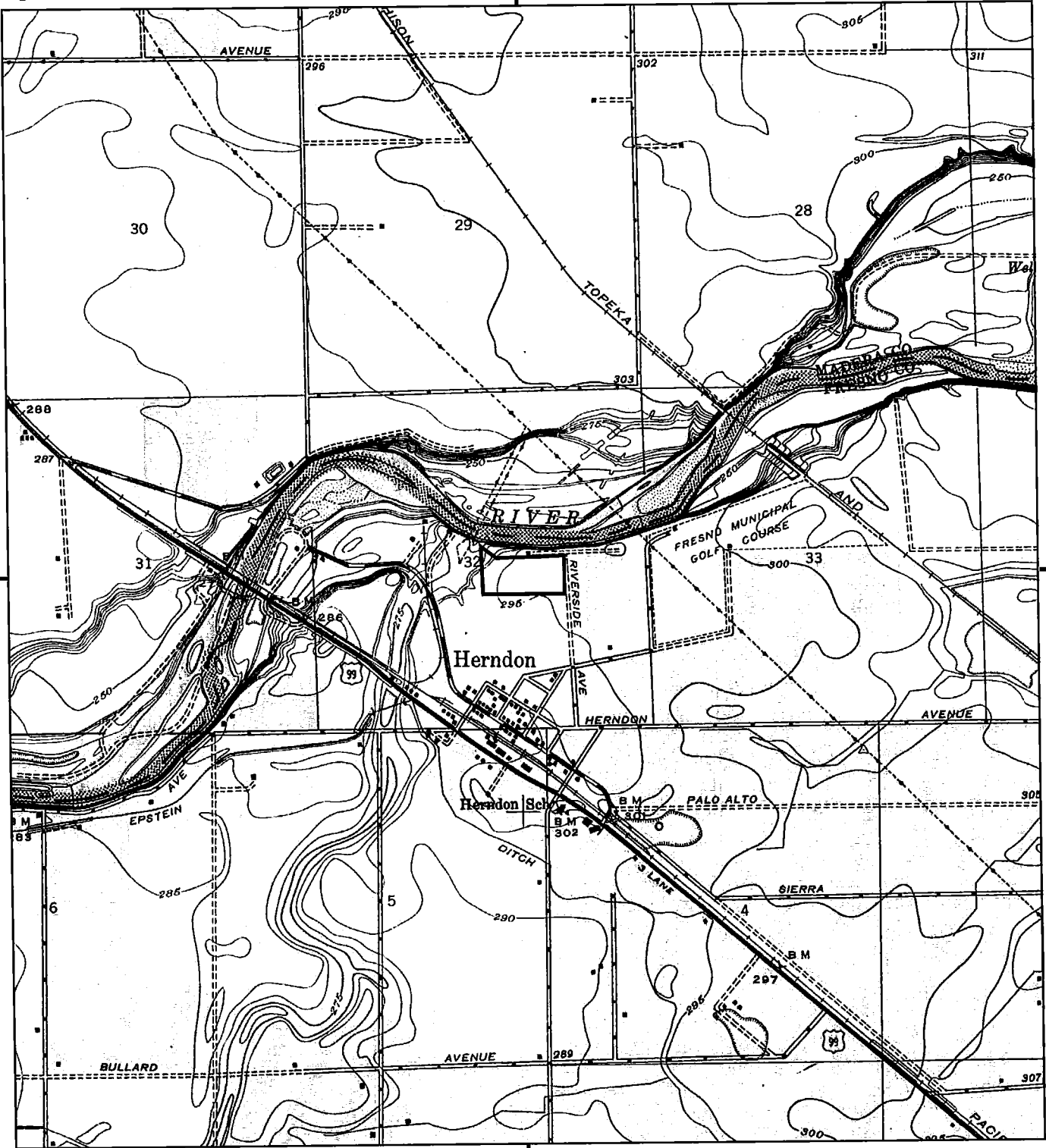
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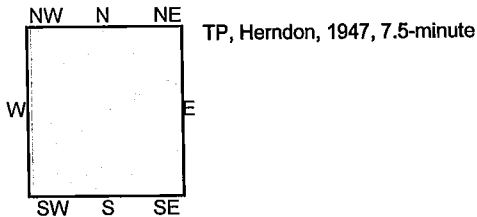
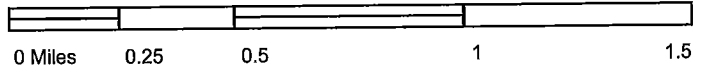
TP, Herndon, 1964, 7.5-minute

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering



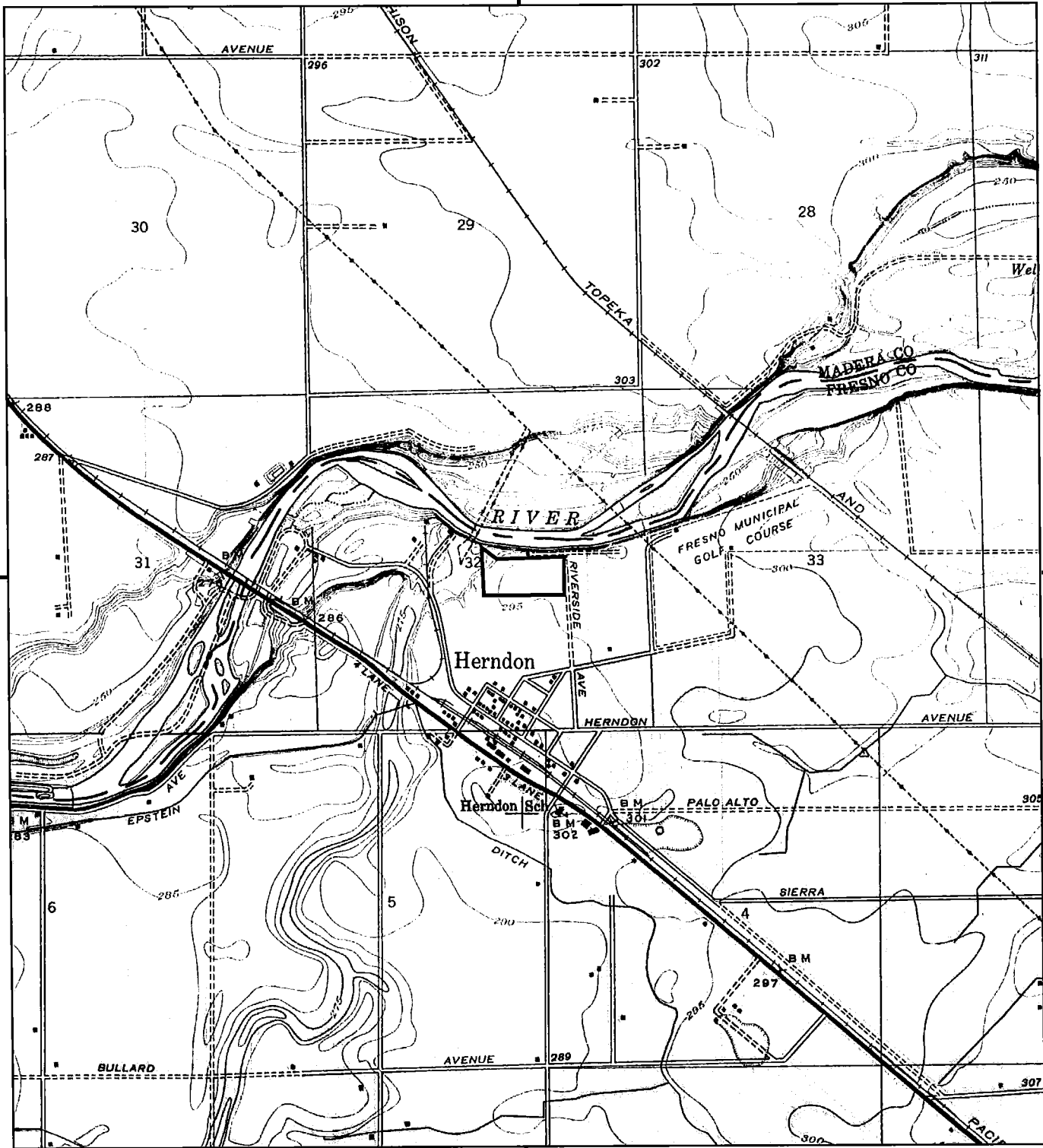


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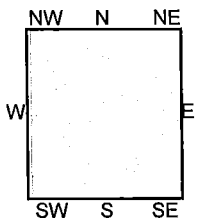
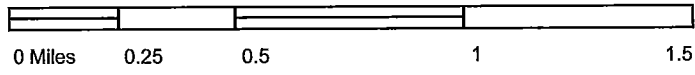


SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering





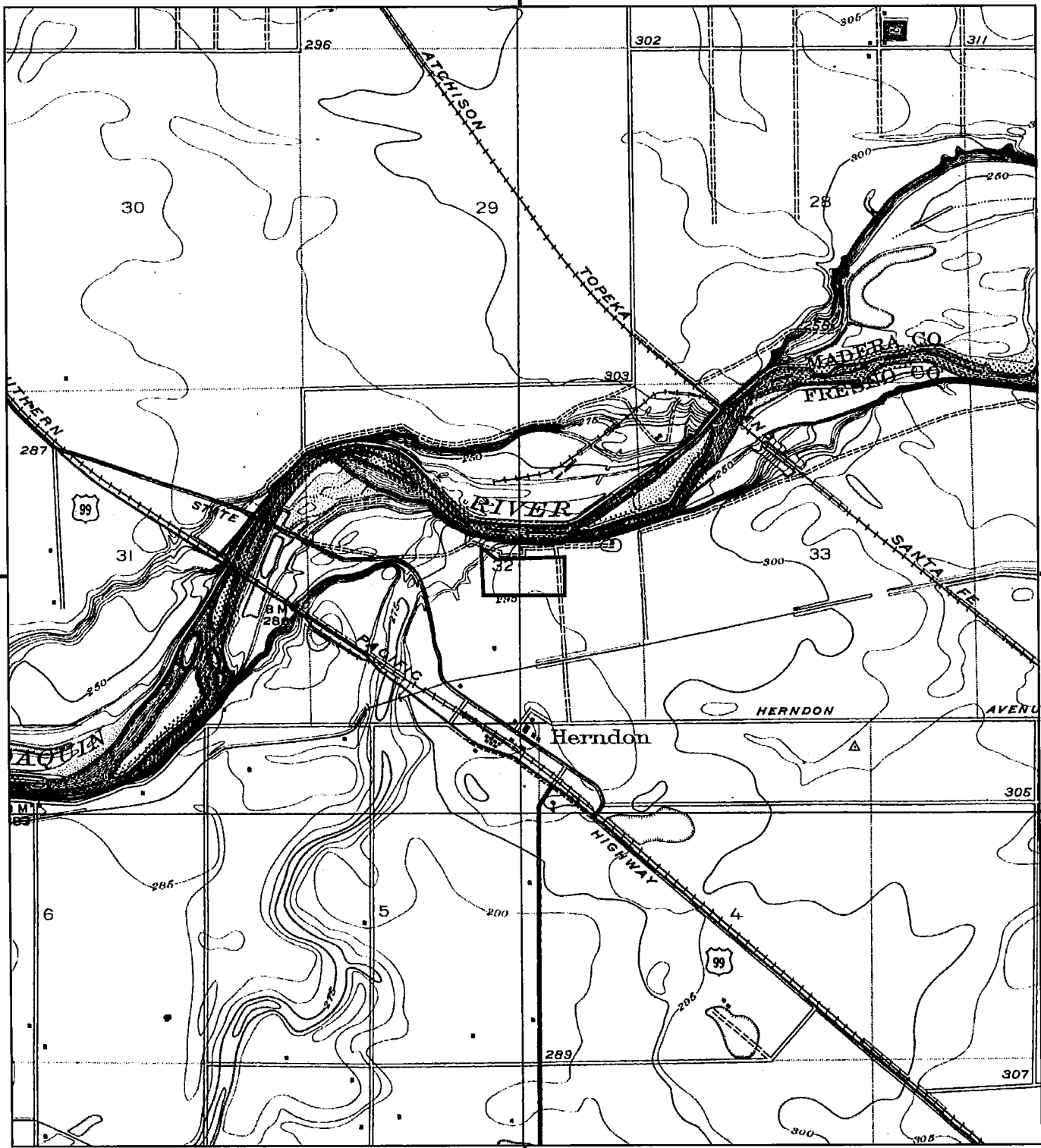
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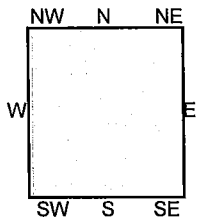
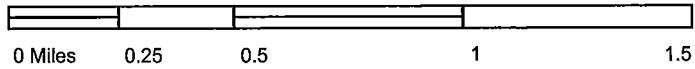
TP, Herndon, 1946, 7.5-minute

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering





This report includes information from the following map sheet(s).



TP, Herndon, 1923, 7.5-minute

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno, CA 93722
 CLIENT: Precision Civil Engineering



Tapestry 3

7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.7
July 17, 2017

EDR Environmental Lien and AUL Search



6 Armstrong Road
Shelton, CT 06484
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EDR Environmental Lien and AUL Search

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A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

7308 N Thiele Ave
Tapestry 3
Fresno, CA 93722

RESEARCH SOURCE

Source 1:

Fresno Recorder
Fresno, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed: deed
Title is vested in: US Property Investors Grp LLC
Title received from: YRX Invesments LLC
Deed Dated: 2/14/2011
Deed Recorded: 2/28/2011
Book: NA
Page: na
Volume: na
Instrument: na
Docket: NA
Land Record Comments:
Miscellaneous Comments:

Legal Description: See exhibit

Legal Current Owner: US Property Investors Grp LLC

Parcel # / Property Identifier: 504-05-002, 504-13-012

Comments: See exhibit

ENVIRONMENTAL LIEN

Environmental Lien: Found Not Found

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found Not Found

Deed Exhibit 1

RECORDING REQUESTED BY

THOR WILLE COMPANY

AND WHEN RECORDED MAIL TO
US PROPOERTY INVESTORS GROUP, LLC
27 Heatherwood
Aliso Viejo, CA 92656

2



FRESNO County Recorder
Paul Dictos, C.P.A.

DOC- 2011-0029637

Check Number 72438223

Monday, FEB 28, 2011 10 59 20

Ttl Pd \$1,008.00

Nbr-0003391271

KJE/R5/1-2

Space Above This Line for Recorder's Use Only

A P N 504-050-02, 504-130-12,
504-050-05

Order No 9813002-72

Escrow No 3023971-EL

GRANT DEED

THE UNDERSIGNED GRANTOR(S) DECLARE(S) THAT DOCUMENTARY TRANSFER TAX IS COUNTY \$990.00

computed on full value of property conveyed, or
 computed on full value less value of liens or encumbrances remaining at time of sale
unincorporated area [] City of FRESNO, and

FOR A VALUABLE CONSIDERATION, Receipt of which is hereby acknowledged,
YRX INVESTMENTS, LLC

hereby GRANT(S) to US PROPERTY INVESTORS GROUP, LLC

the following described property in the City of Fresno, County of Fresno State of California,

See Exhibit "A" attached hereto and made a part hereof.

Property commonly known as 7308 North Thiele Ave(Vacant Land), Fresno, 2A 93722

SELLER(S):

YRX INVESTMENTS, LLC

By *[Signature]*
Douglas P Krause
Executive Vice President

Document Date February 14 2011

STATE OF CALIFORNIA
COUNTY OF Los Angeles JSS

On February 17, 2011 before me, Mary Woo a notary public
in and for said state personally appeared Douglas P Krause 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 *Mary Woo*

(Seal)



LEGAL DESCRIPTION

EXHIBIT "A"

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1

LOT 7 SECTION 32, TOWNSHIP 12 SOUTH, RANGE 19 EAST, MOUNT DIABLO BASE AND MERIDIAN, IN THE CITY OF FRESNO, COUNTY OF FRESNO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF OF THE SURVEY OF SAID LAND ON FILE IN THE BUREAU OF LAND MANAGEMENT.

EXCEPT THE SOUTH 25 ACRES THEREOF.

PARCEL 2.

LOTS 213 AND 220 OF J.C. FORKNER FIG GARDENS SUBDIVISION NO. 3, IN THE CITY OF FRESNO, COUNTY OF FRESNO, STATE OF CALIFORNIA, ACCORDING TO THE MAP THEREOF RECORDED IN BOOK 8, PAGE 79 OF PLATS, FRESNO COUNTY RECORDS.

Assessor's Parcel Number **504-050-02**

Assessor's Parcel Number(s): **504-130-12**

Assessor's Parcel Number(s): **504-050-05**

Tapestry 3

7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.8
July 17, 2017

EDR Building Permit Report

Target Property and Adjoining Properties



6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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SECTION

About This Report

Executive Summary

Findings

Glossary

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting 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 (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquiries (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

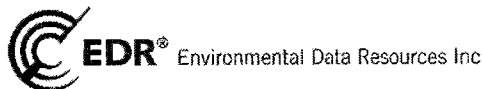
Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.



EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Precision Civil Engineering on Jul 17, 2017.

TARGET PROPERTY

7308 N Thiele Ave
Fresno, CA 93722

SEARCH METHODS

EDR searches available lists for both the Target Property and Surrounding Properties.

RESEARCH SUMMARY

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Fresno

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>
2016	City of Fresno, Building and Safety Services		
2015	City of Fresno, Building and Safety Services		
2014	City of Fresno, Building and Safety Services		
2013	City of Fresno, Building and Safety Services		X
2012	City of Fresno, Building and Safety Services		
2011	City of Fresno, Building and Safety Services		
2010	City of Fresno, Building and Safety Services		
2009	City of Fresno, Building and Safety Services		
2008	City of Fresno, Building and Safety Services		
2007	City of Fresno, Building and Safety Services		
2006	City of Fresno, Building and Safety Services		
2005	City of Fresno, Building and Safety Services		
2004	City of Fresno, Building and Safety Services		
2003	City of Fresno, Building and Safety Services		
2002	City of Fresno, Building and Safety Services		
2001	City of Fresno, Building and Safety Services		
2000	City of Fresno, Building and Safety Services		

BUILDING DEPARTMENT RECORDS SEARCHED

Name: Fresno
Years: 2000-2016
Source: City of Fresno, Building and Safety Services, FRESNO, CA
Phone: (559) 621-8082

Name: Clovis
Years: 1997-2017
Source: City of Clovis, Building Permits and Inspections, Clovis, CA
Phone: (559) 324-2340

Name: Fresno County Unincorporated Area
Years: 1969-2017
Source: Fresno County, Public Works and Planning, FRESNO, CA
Phone: (559) 600-4078

Name: Redding
Years: 1987-2017
Source: City of Redding, Development Services, Building Division, EL CAJON, CA
Phone: 530-225-4014

Name: San Bernardino County
Years: 2002-2017
Source: San Bernardino County, Land Use, Building & Safety, SAN BERNARDINO, CA
Phone: (909) 387-8311

Name: Madera County Unincorporated Area
Years: 2001-2013
Source: County of Madera, Planning Department, Madera, CA
Phone: (559) 675-7821

TARGET PROPERTY FINDINGS

TARGET PROPERTY DETAIL

7308 N Thiele Ave
Fresno, CA 93722

No Permits Found

ADJOINING PROPERTY FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

N THIELE AVE

7372 N THIELE AVE

Date: 11/6/2013
Permit Type: ESSA
Description:

Permit Description: ELECTRICAL SFR MISC
Work Class:
Proposed Use:
Permit Number: 13-00010720
Status: FINAL INSPECTION COMPLETE
Valuation: \$0.00
Contractor Company:
Contractor Name: LENNAR FRESNO INC

GLOSSARY

General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeyman:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other common reasons for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

GLOSSARY

Permit Content Definitions

- **Permit Number:** The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- **Description:** A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use(s) of the property.
- **Permit Type:** Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

Sample Building Permit Data

Date: Nov 09, 2000

Permit Type: Bldg -

New Permit Number: 101000000405

Status: Valuation: \$1,000,000.00

Contractor Company: OWNER-BUILDER

Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

APPENDIX C

REGULATORY AGENCY DATABASE SUMMARY (EDR)

Tapestry 3

7308 N Thiele Ave
Fresno, CA 93722

Inquiry Number: 4994433.2s
July 14, 2017

EDR Summary Radius Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.ednet.com

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Thank you for your business.
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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 (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

7308 N THIELE AVE
FRESNO, CA 93722

COORDINATES

Latitude (North): 36.8433470 - 36° 50' 36.04"
Longitude (West): 119.9172790 - 119° 55' 2.20"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 239862.3
UTM Y (Meters): 4081265.0
Elevation: 297 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: TP
Source: U.S. Geological Survey

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140619
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 7308 N THIELE AVE
 FRESNO, CA 93722

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	ELECTRIC LIGHTWAVE -	7404 N WEBER ST	CUPA Listings	Lower	974, 0.184, West
A2	PG&E HERNDON SUBSTAT	7430 N WEBER AVE	CUPA Listings	Lower	1096, 0.208, West
A3	HERNDON SUBSTATION	7430 N WEBER	RCRA-SQG, FINDS, ECHO	Lower	1096, 0.208, West
B4	ULTA BEAUTY #778	6587 N RIVERSIDE DR	CUPA Listings	Higher	1225, 0.232, ENE
B5	RIVERSIDE GOLF COURS	7492 N RIVERSIDE DR	CUPA Listings	Higher	1287, 0.244, ENE
6	RIVERSIDE GOLF COURS	7672 JOSEPHINE N	LUST, HIST CORTESE	Higher	1518, 0.287, ESE
C7	CURTIS TOWING	6944 VAN BUREN AVE N	LUST	Higher	1769, 0.335, SSE
C8	CURTIS TOWING	6944 VAN BUREN	LUST, HIST CORTESE	Higher	1769, 0.335, SSE
9	MIDDLE/ELEMENTARY SC	HAYES AVENUE/HERNDON	ENVIROSTOR, SCH	Higher	4522, 0.856, ESE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

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

Federal RCRA generators list

RCRA-SQG: A review of the RCRA-SQG list, as provided by EDR, and dated 12/12/2016 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>HERNDON SUBSTATION</i>	<i>7430 N WEBER</i>	<i>W 1/8 - 1/4 (0.208 mi.)</i>	<i>A3</i>	<i>8</i>

State- and tribal - equivalent CERCLIS

ENVIROSTOR: A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2017 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>MIDDLE/ELEMENTARY SC</i> Facility Id: 10010003 Status: No Further Action	<i>HAYES AVENUE/HERNDON</i>	<i>ESE 1/2 - 1 (0.856 mi.)</i>	<i>9</i>	<i>9</i>

State and tribal leaking storage tank lists

LUST: 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.

EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RIVERSIDE GOLF COURS Database: LUST REG 5, Date of Government Version: 07/01/2008 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Status: Case Closed Global Id: T0601900156	7672 JOSEPHINE N	ESE 1/4 - 1/2 (0.287 mi.)	6	9
CURTIS TOWING Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Global Id: T0601900333	6944 VAN BUREN AVE N	SSE 1/4 - 1/2 (0.335 mi.)	C7	9
CURTIS TOWING Database: LUST REG 5, Date of Government Version: 07/01/2008 Status: Leak being confirmed	6944 VAN BUREN	SSE 1/4 - 1/2 (0.335 mi.)	C8	9

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A review of the CUPA Listings list, as provided by EDR, has revealed that there are 4 CUPA Listings sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ULTA BEAUTY #778 Database: CUPA FRESNO, Date of Government Version: 04/06/2017 Facility Id: FA0284321	6587 N RIVERSIDE DR	ENE 1/8 - 1/4 (0.232 mi.)	B4	8
RIVERSIDE GOLF COURS Database: CUPA FRESNO, Date of Government Version: 04/06/2017 Facility Id: FA0273172	7492 N RIVERSIDE DR	ENE 1/8 - 1/4 (0.244 mi.)	B5	8
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ELECTRIC LIGHTWAVE - Database: CUPA FRESNO, Date of Government Version: 04/06/2017 Facility Id: FA0279879	7404 N WEBER ST	W 1/8 - 1/4 (0.184 mi.)	A1	8
PG&E HERNDON SUBSTAT Database: CUPA FRESNO, Date of Government Version: 04/06/2017 Facility Id: FA0275789	7430 N WEBER AVE	W 1/8 - 1/4 (0.208 mi.)	A2	8

HIST CORTESE: A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RIVERSIDE GOLF COURS	7672 JOSEPHINE N	ESE 1/4 - 1/2 (0.287 mi.)	6	9

EXECUTIVE SUMMARY

Reg Id: 5T10000158

CURTIS TOWING

Reg Id: 5T10000340

6944 VAN BUREN

SSE 1/4 - 1/2 (0.335 mi.) C8

9

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
------	--------	-----------	--------------	-----	-------------

NO SITES FOUND

OVERVIEW MAP - 4994433.2S



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

County Boundary

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

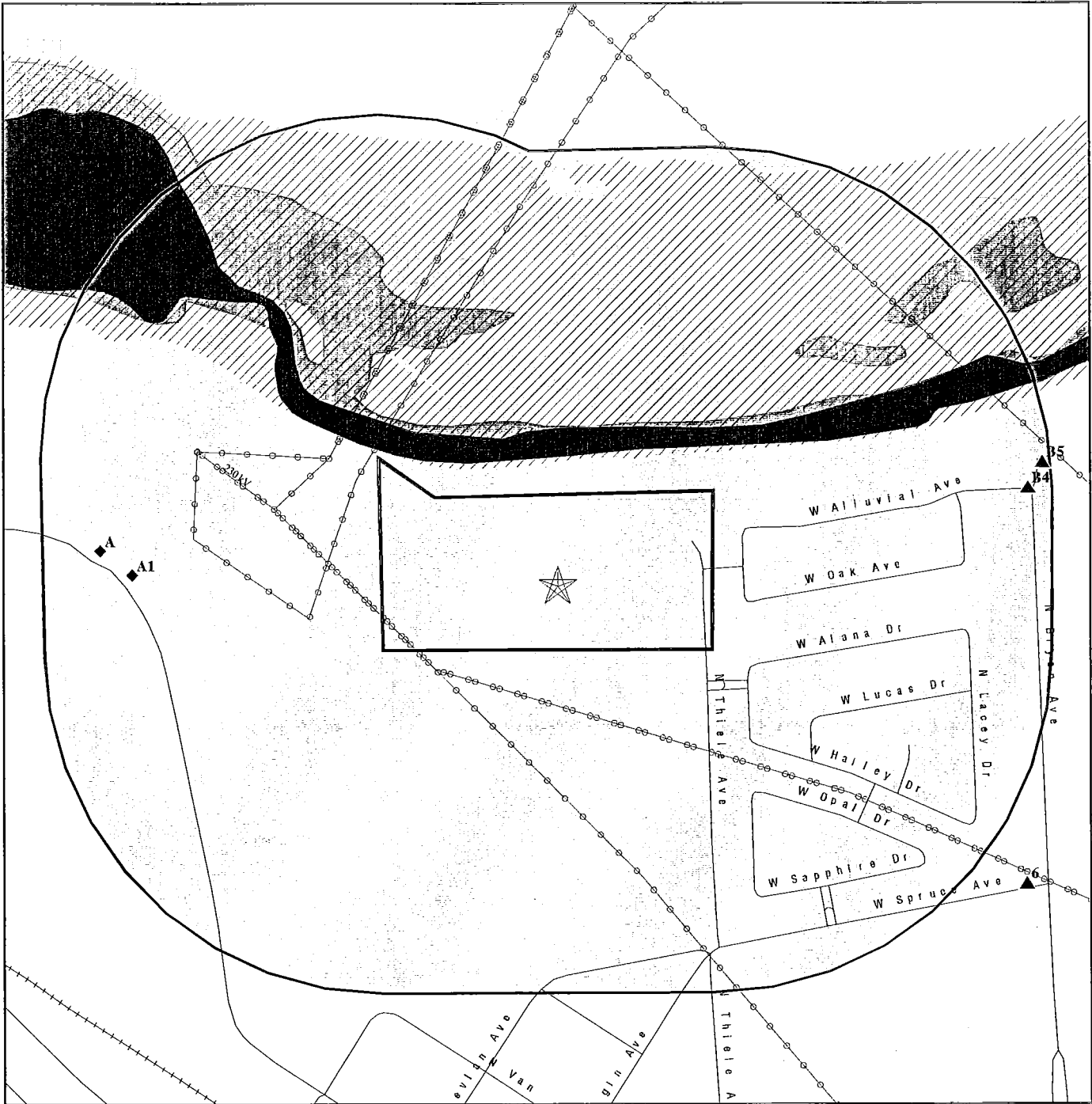


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno CA 93722
 LAT/LONG: 36.843347 / 119.917279

CLIENT: Precision Civil Engineering
 CONTACT: Ryan Brosius
 INQUIRY #: 4994433.2s
 DATE: July 14, 2017 10:26 pm

DETAIL MAP - 4994433.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- County Boundary
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- 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.

<p>SITE NAME: Tapestry 3 ADDRESS: 7308 N Thiele Ave Fresno CA 93722 LAT/LONG: 36.843347 / 119.917279</p>	<p>CLIENT: Precision Civil Engineering CONTACT: Ryan Brosius INQUIRY #: 4994433.2s DATE: July 14, 2017 10:32 pm</p>
-------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------

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
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL RESPONSE</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
ENVIROSTOR	1.000		0	0	0	1	NR	1
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	3	NR	NR	3

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
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
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
State and tribal Brownfields 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
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	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
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
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
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

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
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	0	NR	NR	NR	0
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	0.001		0	NR	NR	NR	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
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	4	NR	NR	NR	4
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
HAZNET	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
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	2	NR	NR	2
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
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
UIC	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
<u>EDR HIGH RISK HISTORICAL RECORDS</u>								
<i>EDR Exclusive Records</i>								
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
<u>EDR RECOVERED GOVERNMENT ARCHIVES</u>								
<i>Exclusive Recovered Govt. Archives</i>								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	5	5	1	0	11

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID	Direction	Distance	Elevation	Site	Database(s)	EDR ID Number	EPA ID Number
A1	West	1/8-1/4	0.184 mi. 974 ft.	ELECTRIC LIGHTWAVE - HERNDON REGEN 7404 N WEBER ST FRESNO, CA 93722	CUPA Listings	S108724522	N/A
Click here for full text details							
Relative: Lower				CUPA Listings Facility Id: FA0279879			
A2	West	1/8-1/4	0.208 mi. 1096 ft.	PG&E HERNDON SUBSTATION 7430 N WEBER AVE FRESNO, CA 93722	CUPA Listings	S103671074	N/A
Click here for full text details							
Relative: Lower				CUPA Listings Facility Id: FA0275789			
A3	West	1/8-1/4	0.208 mi. 1096 ft.	HERNDON SUBSTATION 7430 N WEBER FRESNO, CA 93711	RCRA-SQG FINDS ECHO	1000455687	CAD982494981
Click here for full text details							
Relative: Lower				RCRA-SQG EPA Id: CAD982494981			
				FINDS Registry ID:: 110002831053			
B4	ENE	1/8-1/4	0.232 mi. 1225 ft.	ULTA BEAUTY #778 6587 N RIVERSIDE DR FRESNO, CA 93722	CUPA Listings	S117960870	N/A
Click here for full text details							
Relative: Higher				CUPA Listings Facility Id: FA0284321			
B5	ENE	1/8-1/4	0.244 mi. 1287 ft.	RIVERSIDE GOLF COURSE 7492 N RIVERSIDE DR FRESNO, CA 93722	CUPA Listings	S118191028	N/A
Click here for full text details							
Relative: Higher				CUPA Listings Facility Id: FA0273172			

MAP FINDINGS

Map ID			
Direction			
Distance			EDR ID Number
Elevation	Site	Database(s)	EPA ID Number

6 ESE 1/4-1/2 0.287 mi. 1518 ft.	RIVERSIDE GOLF COURSE 7672 JOSEPHINE N FRESNO, CA 93722	LUST HIST CORTESE	S104404047 N/A
---------------------------------------------------------------------------------	------------------------------------------------------------------------------------	------------------------------------	---------------------------------

[Click here for full text details](#)

Relative:
Higher

LUST
 Status: Case Closed
 Status: Completed - Case Closed
 Global Id: T0601900156

[Click here to access the California GeoTracker records for this facility](#)

HIST CORTESE
 Reg Id: 5T10000158

C7 SSE 1/4-1/2 0.335 mi. 1769 ft.	CURTIS TOWING 6944 VAN BUREN AVE N FRESNO, CA 93722	LUST	S109348459 N/A
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[Click here for full text details](#)

Relative:
Higher

LUST
 Status: Completed - Case Closed
 Global Id: T0601900333

[Click here to access the California GeoTracker records for this facility](#)

C8 SSE 1/4-1/2 0.335 mi. 1769 ft.	CURTIS TOWING 6944 VAN BUREN FRESNO, CA 93722	LUST HIST CORTESE	S104404109 N/A
----------------------------------------------------------------------------------	--------------------------------------------------------------------------	------------------------------------	---------------------------------

[Click here for full text details](#)

Relative:
Higher

LUST
 Status: Leak being confirmed

HIST CORTESE
 Reg Id: 5T10000340

9 ESE 1/2-1 0.856 mi. 4522 ft.	MIDDLE/ELEMENTARY SCHOOL SITE HAYES AVENUE/HERNDON AVENUE/PALO ALTO AVE FRESNO, CA 93722	ENVIROSTOR SCH	S104384569 N/A
-------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------	---------------------------------	---------------------------------

[Click here for full text details](#)

Relative:
Higher

ENVIROSTOR
 Facility Id: 10010003
 Status: No Further Action

SCH

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MIDDLE/ELEMENTARY SCHOOL SITE (Continued)

S104384569

Facility Id: 10010003
Status: No Further Action

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St.	Acronym	Full Name	Government Agency	Gov. Date	Arvl. Date	Active Date
CA	AST	Aboveground Petroleum Storage Tank Facilities	California Environmental Protection Agency	07/06/2016	07/12/2016	09/19/2016
CA	BROWNFIELDS	Considered Brownfields Sites Listing	State Water Resources Control Board	01/03/2017	01/04/2017	03/02/2017
CA	CA BOND EXP. PLAN	Bond Expenditure Plan	Department of Health Services	01/01/1989	07/27/1994	08/02/1994
CA	CA FID UST	Facility Inventory Database	California Environmental Protection Agency	10/31/1994	09/05/1995	09/29/1995
CA	CDL	Clandestine Drug Labs	Department of Toxic Substances Control	12/31/2016	03/17/2017	05/10/2017
CA	CHMIRS	California Hazardous Material Incident Report System	Office of Emergency Services	12/06/2016	01/25/2017	05/10/2017
CA	CORTESE	"Cortese" Hazardous Waste & Substances Sites List	CAL EPA/Office of Emergency Information	12/28/2016	12/28/2016	03/02/2017
CA	DEED	Deed Restriction Listing	DTSC and SWRCB	03/06/2017	03/07/2017	05/23/2017
CA	DRYCLEANERS	Cleaner Facilities	Department of Toxic Substances Control	03/09/2017	04/11/2017	05/23/2017
CA	EMI	Emissions Inventory Data	California Air Resources Board	12/31/2014	09/23/2016	10/24/2016
CA	ENF	Enforcement Action Listing	State Water Resources Control Board	01/23/2017	01/27/2017	05/25/2017
CA	ENVIROSTOR	EnviroStor Database	Department of Toxic Substances Control	01/30/2017	01/31/2017	05/23/2017
CA	Financial Assurance 1	Financial Assurance Information Listing	Department of Toxic Substances Control	04/25/2016	04/29/2016	06/21/2016
CA	Financial Assurance 2	Financial Assurance Information Listing	California Integrated Waste Management Board	02/14/2017	02/17/2017	05/25/2017
CA	HAULERS	Registered Waste Tire Haulers Listing	Integrated Waste Management Board	01/13/2017	01/17/2017	05/31/2017
CA	HAZNET	Facility and Manifest Data	California Environmental Protection Agency	12/31/2015	10/12/2016	12/15/2016
CA	HIST CAL-SITES	CalSites Database	Department of Toxic Substances Control	08/08/2005	08/03/2006	08/24/2006
CA	HIST CORTESE	Hazardous Waste & Substance Site List	Department of Toxic Substances Control	04/01/2001	01/22/2009	04/08/2009
CA	HIST UST	Hazardous Substance Storage Container Database	State Water Resources Control Board	10/15/1990	01/25/1991	02/12/1991
CA	HWP	EnviroStor Permitted Facilities Listing	Department of Toxic Substances Control	11/21/2016	11/22/2016	01/23/2017
CA	HWT	Registered Hazardous Waste Transporter Database	Department of Toxic Substances Control	04/11/2017	04/13/2017	04/26/2017
CA	ICE	Land Disposal Sites Listing (GEOTRACKER)	State Water Quality Control Board	11/21/2016	11/22/2016	01/23/2017
CA	LDS	Environmental Liens Listing	Department of Toxic Substances Control	03/13/2017	03/14/2017	05/02/2017
CA	LIENS	Leaking Underground Fuel Tank Report (GEOTRACKER)	Department of Toxic Substances Control	03/06/2017	03/07/2017	04/21/2017
CA	LUST	Active Toxic Site Investigation	State Water Resources Control Board	03/13/2017	03/14/2017	05/02/2017
CA	LUST REG 1	Fuel Leak List	California Regional Water Quality Control Board	02/01/2001	02/28/2001	03/29/2001
CA	LUST REG 2	Leaking Underground Storage Tank Database	California Regional Water Quality Control Board	09/30/2004	10/20/2004	11/19/2004
CA	LUST REG 3	Underground Storage Tank Leak List	California Regional Water Quality Control Board	05/19/2003	05/19/2003	06/02/2003
CA	LUST REG 4	Leaking Underground Storage Tank Database	California Regional Water Quality Control Board	09/07/2004	09/07/2004	10/12/2004
CA	LUST REG 5	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Board	07/01/2008	07/22/2008	07/31/2008
CA	LUST REG 6L	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Board	09/09/2003	09/10/2003	10/07/2003
CA	LUST REG 6V	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Board	06/07/2005	06/07/2005	06/29/2005
CA	LUST REG 7	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Board	02/26/2004	02/26/2004	03/24/2004
CA	LUST REG 8	Leaking Underground Storage Tanks	California Regional Water Quality Control Board	02/14/2005	02/15/2005	03/28/2005
CA	LUST REG 9	Leaking Underground Storage Tank Report	California Regional Water Quality Control Board	03/01/2001	04/23/2001	05/21/2001
CA	MCS	Military Cleanup Sites Listing (GEOTRACKER)	State Water Resources Control Board	03/13/2017	03/14/2017	05/02/2017
CA	MINES	Mines Site Location Listing	Department of Conservation	09/12/2016	09/14/2016	10/14/2016
CA	MWMP	Medical Waste Management Program Listing	Department of Public Health	12/02/2016	12/06/2016	03/02/2017
CA	NOTIFY 65	Proposition 65 Records	State Water Resources Control Board	12/16/2016	12/22/2016	03/02/2017
CA	NPDES	NPDES Permits Listing	State Water Resources Control Board	11/14/2016	11/15/2016	03/02/2017
CA	PEST LIC	Pesticide Regulation Licenses Listing	Department of Pesticide Regulation	12/06/2016	12/06/2016	03/03/2017
CA	PROC	Certified Processors Database	Department of Conservation	03/13/2017	03/14/2017	05/03/2017
CA	RESPONSE	State Response Sites	Department of Toxic Substances Control	01/30/2017	01/31/2017	05/23/2017
CA	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Resources Recycling and Recover	07/01/2013	07/01/2013	01/13/2014
CA	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	State Water Resources Control Board	07/01/2013	07/01/2013	12/30/2013
CA	SCH	School Property Evaluation Program	Department of Toxic Substances Control	01/30/2017	01/31/2017	05/23/2017
CA	SLIC	Statewide SLIC Cases (GEOTRACKER)	State Water Resources Control Board	03/13/2017	03/14/2017	05/02/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov. Date	Arvl. Date	Active Date
CA	SLIC REG 1	Active Toxic Site Investigations	California Regional Water Quality Control Board	04/03/2003	04/07/2003	04/25/2003
CA	SLIC REG 2	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board San Fran	09/30/2004	10/20/2004	11/19/2004
CA	SLIC REG 3	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Board	05/18/2006	05/18/2006	06/15/2006
CA	SLIC REG 4	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Region Water Quality Control Board Los Angele	11/17/2004	11/18/2004	01/04/2005
CA	SLIC REG 5	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board Central	04/01/2005	04/05/2005	04/21/2005
CA	SLIC REG 6L	SLIC Sites	California Regional Water Quality Control Board	09/07/2004	09/07/2004	10/12/2004
CA	SLIC REG 6V	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board, Victoria	05/24/2005	05/25/2005	06/16/2005
CA	SLIC REG 7	SLIC List	California Regional Water Quality Control Board, Co	11/24/2004	11/29/2004	01/04/2005
CA	SLIC REG 8	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Region Water Quality Control Board	04/03/2008	04/03/2008	01/4/2008
CA	SLIC REG 9	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Board	09/10/2007	09/11/2007	09/28/2007
CA	SPILLS 90	SPILLS90 data from FirstSearch	California Regional Water Quality Control Board	06/06/2012	01/03/2013	02/22/2013
CA	SWEEPS UST	SWEEPS UST Listing	FirstSearch	06/01/1994	07/07/2005	08/11/2005
CA	SWF/LF (SWIS)	Solid Waste Information System	Department of Resources Recycling and Recover	02/13/2017	02/15/2017	05/02/2017
CA	SWRCY	Recycler Database	Department of Conservation	03/13/2017	03/14/2017	05/03/2017
CA	TOXIC PITS	Toxic Pits Cleanup Act Sites	State Water Resources Control Board	07/01/1995	08/30/1995	09/26/1995
CA	UIC	UIC Listing	Deaprtment of Conservation	01/20/2017	03/14/2017	05/03/2017
CA	UST	Active UST Facilities	SWRCB	03/12/2017	03/16/2017	05/12/2017
CA	UST MENDOCINO	Mendocino County UST Database	Department of Public Health	03/09/2017	03/17/2017	05/23/2017
CA	VCP	Voluntary Cleanup Program Properties	Department of Toxic Substances Control	01/30/2017	01/31/2017	05/23/2017
CA	WASTEWATER PITS	Oil Wastewater Pits Listing	RWQCB, Central Valley Region	04/15/2015	04/17/2015	06/23/2015
CA	WDS	Waste Discharge System	State Water Resources Control Board	06/19/2007	06/20/2007	06/29/2007
CA	WIP	Well Investigation Program Case List	Los Angeles Water Quality Control Board	07/03/2009	07/21/2009	08/03/2009
CA	WJUDS/SWAT	Waste Management Unit Database	State Water Resources Control Board	04/01/2000	04/10/2000	05/10/2000
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	04/22/2013	03/03/2015	03/09/2015
US	ABANDONED MINES	Abandoned Mines	Department of Interior	03/14/2017	03/17/2017	04/07/2017
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2013	02/24/2015	09/30/2015
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	07/01/2014	09/10/2014	10/20/2014
US	CONSENT	Superfund (CERCLA) Consent Decreases	Department of Justice, Consent Decree Library	09/30/2016	11/18/2016	02/03/2017
US	CORRACTS	Corrective Action Report	EPA	12/12/2016	12/28/2016	02/10/2017
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	06/02/2016	06/03/2016	09/02/2016
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transportation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	Delisted NPL	National Priority List Deletions	EPA	04/05/2017	04/21/2017	05/12/2017
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	03/19/2017	03/21/2017	05/12/2017
US	EDR Hist Auto	EDR Exclusive Historic Gas Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historic Dry Cleaners	EDR, Inc.			
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency			
US	ERNS	Emergency Response Notification System	Environmental Protection Agency			
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency			
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey			
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/01/2010	02/16/2010	04/12/2010
US	FINDS	Facility Index System/Facility Registry System	EPA	04/04/2017	04/07/2017	05/12/2017
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Anvl Date	Active Date
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	01/31/2015	07/08/2015	10/13/2015
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	02/22/2017	02/22/2017	05/12/2017
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	12/23/2016	12/27/2016	02/17/2017
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	12/28/2016	12/28/2016	02/03/2017
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Services, Indian	04/01/2014	08/06/2014	01/29/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	11/14/2016	01/26/2017	05/05/2017
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	10/07/2016	01/26/2017	05/05/2017
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	10/14/2016	01/27/2017	05/05/2017
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	11/14/2016	01/26/2017	05/05/2017
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	10/01/2016	01/26/2017	05/05/2017
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	09/01/2016	01/26/2017	05/05/2017
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	10/17/2016	01/26/2017	05/05/2017
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	10/06/2016	01/26/2017	05/05/2017
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN RESERV	Indian Reservations	EPA, Region 1	11/14/2016	01/26/2017	05/05/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA Region 1	10/07/2016	01/26/2017	05/05/2017
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	10/14/2016	01/27/2017	05/05/2017
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	10/14/2016	01/26/2017	05/05/2017
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	10/14/2016	01/26/2017	05/05/2017
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	10/01/2016	01/26/2017	05/05/2017
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	09/01/2016	01/26/2017	05/05/2017
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	10/17/2016	01/26/2017	05/05/2017
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	10/06/2016	01/26/2017	05/05/2017
US	INDIAN VCP R1	Underground Storage Tanks on Indian Land	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Underground Storage Tanks on Indian Land	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Voluntary Cleanup Priority Listing	Environmental Protection Agency	12/05/2016	01/05/2017	02/10/2017
US	LEAD SMELTER 2	Voluntary Cleanup Priority Listing	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	12/28/2016	01/04/2017	04/07/2017
US	LUCIS	Land Use Control Information System	Environmental Protection Agency	02/18/2014	03/18/2014	04/24/2014
US	MLTS	Material Licensing Tracking System	Department of the Navy	12/28/2016	01/04/2017	04/07/2017
US	NPL	National Priority List	Nuclear Regulatory Commission	08/30/2016	09/08/2016	10/21/2016
US	NPL LIENS	Federal Superfund Liens	EPA	04/05/2017	04/21/2017	05/12/2017
US	ODI	Open Dump Inventory	EPA	10/15/1991	02/02/1994	03/30/1994
US	PADS	PCB Activity Database System	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PCB TRANSFORMER	PCB Transformer Registration Database	EPA	01/20/2016	04/28/2016	09/02/2016
US	PRP	Potentially Responsible Parties	Environmental Protection Agency	02/01/2011	10/19/2011	10/10/2012
US	Proposed NPL	Proposed National Priority List Sites	EPA	10/25/2013	10/17/2014	10/20/2014
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/05/2017	04/21/2017	05/12/2017
US	RADINFO	Radiation Information Database	EPA	04/17/1995	07/03/1995	08/07/1995
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	01/04/2017	01/06/2017	02/10/2017
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	12/12/2016	12/28/2016	02/10/2017
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	12/12/2016	12/28/2016	02/10/2017
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	12/12/2016	12/28/2016	02/10/2017
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	12/12/2016	12/28/2016	02/10/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Anvl Date	Active Date
US	RMP	Risk Management Plans	Environmental Protection Agency	02/01/2017	02/09/2017	04/07/2017
US	ROD	Records Of Decision	EPA	11/25/2013	12/12/2013	02/24/2014
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	SEMS	Superfund Enterprise Management System	EPA	02/07/2017	04/19/2017	05/05/2017
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	02/07/2017	04/19/2017	05/05/2017
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2014	11/24/2015	04/05/2016
US	TSCA	Toxic Substances Control Act	EPA	12/31/2012	01/15/2015	01/29/2015
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	09/14/2010	10/07/2011	03/01/2012
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	Environmental Protection Agency	03/02/2017	03/02/2017	04/07/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Drug Enforcement Administration	02/09/2017	03/08/2017	06/09/2017
US	US CDL	Clandestine Drug Labs	Environmental Protection Agency	02/13/2017	02/28/2017	06/09/2017
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	02/13/2017	02/15/2017	05/12/2017
US	US FIN ASSUR	Financial Assurance Information	Drug Enforcement Administration	02/09/2017	03/08/2017	06/09/2017
US	US HIST CDL	National Clandestine Laboratory Register	Environmental Protection Agency	02/13/2017	02/28/2017	06/09/2017
US	US INST CONTROL	Sites with Institutional Controls	Department of Labor, Mine Safety and Health A	02/08/2017	02/28/2017	04/07/2017
US	US MINES	Mines Master Index File	USGS	12/05/2005	02/29/2008	04/18/2008
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	US MINES 3	Active Mines & Mineral Plants Database Listing	Department of Defense	10/25/2015	01/29/2016	04/05/2016
US	UXO	Unexploded Ordnance Sites	Department of Defense			
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protection	07/30/2013	08/19/2013	10/03/2013
NJ	NJ MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2015	09/29/2016	01/03/2017
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	01/30/2017	02/01/2017	02/13/2017
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2015	07/22/2016	11/22/2016
RI	RI MANIFEST	Manifest information	Department of Environmental Management	12/31/2013	06/19/2015	07/15/2015
WI	WI MANIFEST	Manifest information	Department of Natural Resources	12/31/2015	04/14/2016	06/03/2016
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
CA	Daycare Centers	Sensitive Receptor: Licensed Facilities	Department of Social Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
CA	State Wetlands	Wetland Inventory	Department of Fish & Game			
US	Topographic Map		U.S. Geological Survey			
US	Oil/Gas Pipelines		PennWell Corporation			
US	Electric Power Transmission Line Data		PennWell Corporation			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St. Acronym _____ Full Name _____ Government Agency _____ Gov. Date _____ Arch. Date _____ Active Date _____

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TAPESTRY 3
7308 N THIELE AVE
FRESNO, CA 93722

TARGET PROPERTY COORDINATES

Latitude (North):	36.843347 - 36° 50' 36.05"
Longitude (West):	119.917279 - 119° 55' 2.20"
Universal Transverse Mercator:	Zone 11
UTM X (Meters):	239862.3
UTM Y (Meters):	4081265.0
Elevation:	297 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5603182 HERNDON, CA
Version Date:	2012

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 principal 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).

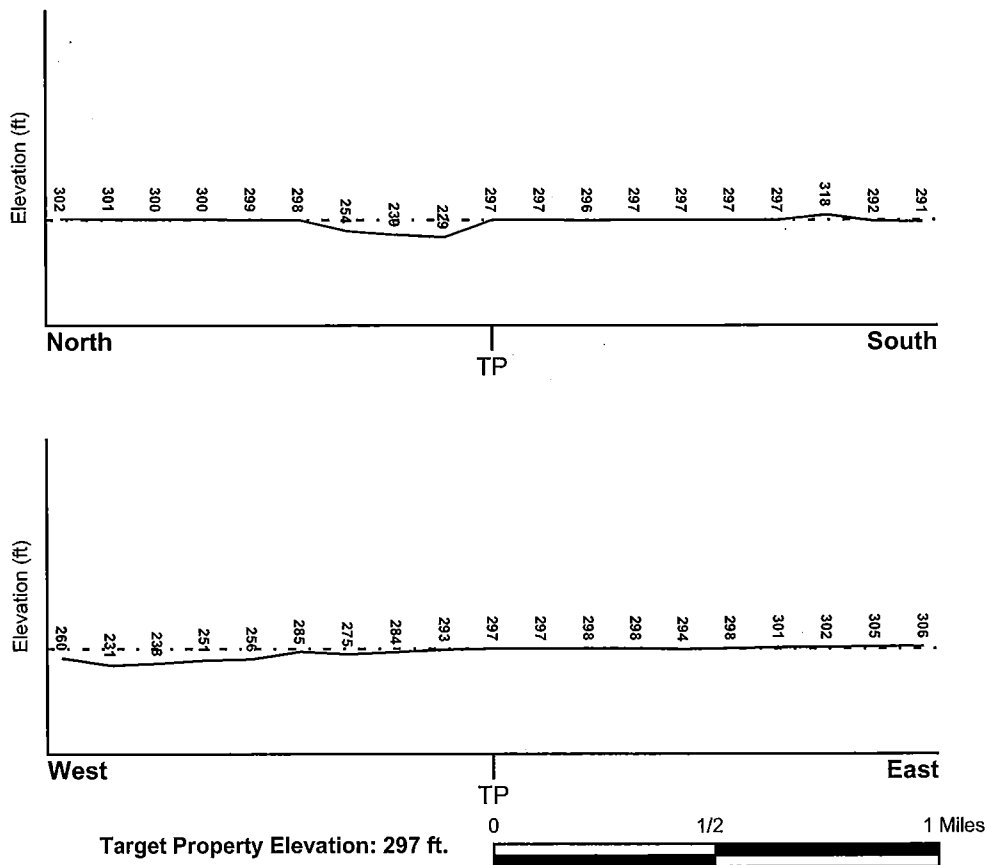
TOPOGRAPHIC INFORMATION

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 NNW

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

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06019C1535H	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
Not Reported	

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
HERNDON	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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

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

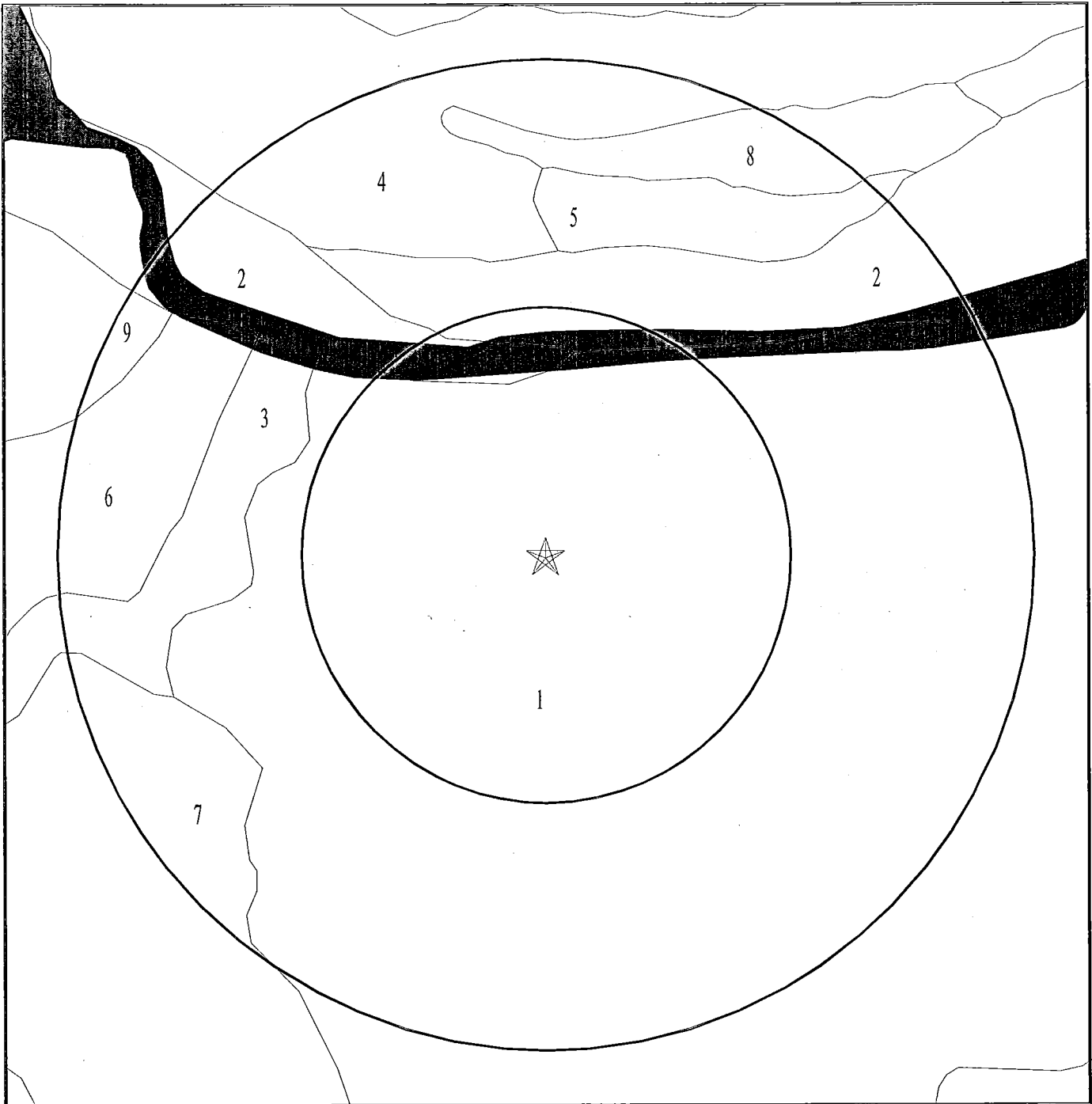
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

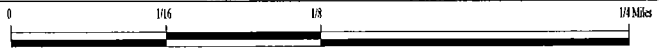
Category: Stratified Sequence

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 - 4994433.2s



- ★ Target Property
- ∕∕ SSURGO Soil
- ∕∕ Water



SITE NAME: Tapestry 3
ADDRESS: 7308 N Thiele Ave
Fresno CA 93722
LAT/LONG: 36.843347 / 119.917279

CLIENT: Precision Civil Engineering
CONTACT: Ryan Brosius
INQUIRY #: 4994433.2s
DATE: July 14, 2017 10:35 pm

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: HANFORD

Soil Surface Texture: fine sandy 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: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	16 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	40 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture: fine sandy 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:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: POLLASKY

Soil Surface Texture: fine sandy 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: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	7 inches	38 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	38 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: 1 Min: 0.1	Max: Min:

Soil Map ID: 4

Soil Component Name: Gravel pits

Soil Surface Texture: very gravelly coarse sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	very gravelly coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	5 inches	59 inches	extremely gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel.	Max: 141 Min: 42	Max: Min:

Soil Map ID: 5

Soil Component Name: Tujunga

Soil Surface Texture: loamy sand

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: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	11 inches	24 inches	stratified sand to loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.1
3	24 inches	59 inches	stratified gravelly sand to gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.1

Soil Map ID: 6

Soil Component Name: HANFORD

Soil Surface Texture: gravelly sandy 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: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	16 inches	72 inches	stratified gravelly coarse sandy loam to fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 7

Soil Component Name: EXETER

Soil Surface Texture: 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: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	14 inches	29 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.6
3	29 inches	33 inches	cemented	Not reported	Not reported	Max: 0.1 Min: 0.01	Max: Min:

Soil Map ID: 8

Soil Component Name: Grangeville

Soil Surface Texture: fine sandy 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: 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							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
2	11 inches	20 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	20 inches	59 inches	stratified loamy sand to silt loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 9 Min: 7.9

Soil Map ID: 9

Soil Component Name: HANFORD

Soil Surface Texture: sandy 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: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	16 inches	72 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
2	USGS40000178672	1/2 - 1 Mile North
8	USGS40000178396	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	11090	1/4 - 1/2 Mile South
3	11092	1/2 - 1 Mile East
4	11573	1/2 - 1 Mile South
5	CADW600000026411	1/2 - 1 Mile SSW
6	CADW60000001989	1/2 - 1 Mile SW
7	CADW600000029996	1/2 - 1 Mile WNW
9	CADW600000030000	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 4994433.2s



- 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
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Tapestry 3
 ADDRESS: 7308 N Thiele Ave
 Fresno CA 93722
 LAT/LONG: 36.843347 / 119.917279

CLIENT: Precision Civil Engineering
 CONTACT: Ryan Brosius
 INQUIRY #: 4994433.2s
 DATE: July 14, 2017 10:34 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID	Direction	Distance	Elevation	Database	EDR ID Number
1	South	1/4 - 1/2 Mile	Higher	CA WELLS	11090
		Click here for full text details			
2	North	1/2 - 1 Mile	Higher	FED USGS	USGS40000178672
		Click here for full text details			
3	East	1/2 - 1 Mile	Higher	CA WELLS	11092
		Click here for full text details			
4	South	1/2 - 1 Mile	Higher	CA WELLS	11573
		Click here for full text details			
5	SSW	1/2 - 1 Mile	Higher	CA WELLS	CADW60000026411
		Click here for full text details			
6	SW	1/2 - 1 Mile	Lower	CA WELLS	CADW60000001989
		Click here for full text details			
7	WNW	1/2 - 1 Mile	Lower	CA WELLS	CADW60000029996
		Click here for full text details			
8	WSW	1/2 - 1 Mile	Lower	FED USGS	USGS40000178396
		Click here for full text details			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

9
ENE
1/2 - 1 Mile
Lower

[Click here for full text details](#)

CA WELLS CADW60000030000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93722	38	1

Federal EPA Radon Zone for FRESNO County: 2

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 Zip Code: 93722

Number of sites tested: 8

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.738 pCi/L	100%	0%	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.

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 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

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.

STATE RECORDS

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.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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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APPENDIX D

**INTERVIEW AND
REGULATORY AGENCY DOCUMENTATION**

AGENCY RECORDS SUMMARY

	AGENCY	DATE	CONTACT NAME	PHONE	TYPE OF INFORMATION
Fresno County	Building Department	7/20/2017	Clerk		Contacted for information regarding building permits for the site.
City of San Joaquin	Planning Department	7/20/2017	Clerk		Contacted for information regarding zoning for the site.
State	Department of Toxic Substance Control	7/20/2017	Diane Harden	(916) 255-3705	List of properties that show up on Cal-Sites database or on SLIC database.
State	Fire Marshal Pipeline Safety Office	7/20/2017	Lisa Dowdy	(562) 982-9115	Contacted for information regarding pipelines on or near the site.
California State	State Water Resource Control Board	7/20/2017	Deanna Flanagan	(916) 341-5808	Permit information on HIST UST.
County	Environmental Resources	7/20/2017	Clerk		Lists of properties that handle hazardous materials, USTs, wells, and hazardous material incidents were reviewed.
County	Department of Agriculture				Lists of permits for pesticide use on agricultural properties.

Appendix D

Acoustical Analysis

ACOUSTICAL ANALYSIS

**TRACT 6195, TAPESTRY III
FRESNO, CALIFORNIA**

WJVA Project No. 20-035

PREPARED FOR

**CENTURY COMMUNITIES, CENTRAL VALLEY DIVISION
7815 NORTH PALM AVENUE, SUITE 101
FRESNO, CA 93711**

PREPARED BY

**WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA**



wjv acoustics

JUNE 28, 2021

INTRODUCTION

The project is a proposed 89-lot single-family residential development to be located in Fresno, California. The project site is located west of North Thiele Avenue, approximately one-quarter mile north of West Spruce Avenue. The City of Fresno has requested an acoustical analysis to quantify project site noise exposure and determine noise mitigation requirements. This analysis, prepared by WJV Acoustics, Inc. (WJVA), is based upon a project site plan prepared by Precision Engineering (dated 9-11-18), traffic data provided by JLB Traffic Engineering 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

The City of Fresno General Plan Noise Element (adopted 12/18/14) provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} represents 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 L_{dn} represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. Table I provides the General Plan noise level standards for transportation noise sources.

TABLE I			
CITY OF FRESNO GENERAL PLAN NOISE LEVEL STANDARDS TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES			
Noise-Sensitive Land Use	Outdoor Activity Areas ¹		Interior Spaces
	L_{dn} /CNEL, dB	L_{dn} /CNEL, dB	L_{eq} dB ²
Residential	65	45	---
Transient Lodging	65	45	---
Hospitals, Nursing Homes	65	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	65	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

1 Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

Source: City of Fresno General Plan

Additionally, Implementing Policy NS-1-h 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.

PROJECT SITE NOISE EXPOSURE

The project site is located west of N. Thiele Avenue, approximately one-quarter mile north of W. Spruce Avenue. The project site is exposed traffic noise. The distance from center of the backyards of the closest proposed lots to the centerline of N. Thiele Avenue is approximately 65 feet. Additionally, the project site is located approximately one-third of a mile from the future alignment of the California High Speed Rail (HSR) line and the Union Pacific Railroad (UPR) mainline.

Traffic Noise Exposure

Noise exposure from traffic on N. Thiele Avenue was calculated for existing and future (2042 plus project) conditions using the FHWA Traffic Noise Model and traffic data provided by JLB Traffic Engineering. WJVA staff conducted a calibration noise measurement at the project site.

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 October 4, 2020. The purpose of the measurement was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. The measurement site was located within the project site at a distance of approximately 75 feet from the centerline of N. Thiele Avenue. The speed limit on N. Thiele Avenue was not posted, and was assumed to be 35 mph (miles per hour). The project vicinity and noise monitoring site locations are provided as Figure 2.

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 II.

From Table II it may be determined that the traffic noise levels predicted by the FHWA Model were 3.5 dB lower than those measured for the conditions observed at the time of the noise measurements for N. Thiele Avenue. The underprediction of the noise model is a result of extremely low traffic volumes observed on N. Thiele Avenue and the presence of extraneous noise sources in the general project area. An adjustment to the model is not warranted in this situation.

TABLE II COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS TRACT 6195, TAPESTRY III, FRESNO	
	N. Thiele Ave.
Measurement Start Time	9:10 a.m.
Observed # Autos/Hr.	24
Observed # Medium Trucks/Hr.	0
Observed # Heavy Trucks/Hr.	0
Observed Speed (MPH)	35
Distance, ft. (from center of roadway)	75
L _{eq} , dBA (Measured)	51.1
L _{eq} , dBA (Predicted)	47.6
Difference between Measured and Predicted L_{eq}, dBA	3.5

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

Annual Average Daily Traffic (AADT) data for N. Thiele Avenue was obtained from JLB Traffic Engineering. 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. A speed limit of 35 mph was assumed for both roadways. Table III summarizes annual average traffic data used to model noise exposure within the project site.

TABLE III
TRAFFIC NOISE MODELING ASSUMPTIONS
TRACT 6195, TAPESTRY III, FRESNO

	N. Thiele Ave.	
	Existing	2042 Plus Project
Annual Avenue Daily Traffic (AADT)	550	1,060
Day/Night Split (%)	90/10	
Assumed Vehicle Speed (mph)	35	
% Medium Trucks (% AADT)	2	
% Heavy Trucks (% AADT)	1	
Sources: Fresno COG WJV Acoustics, Inc.		

Using data from Table III, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed backyards from N. Thiele Avenue. The calculated noise exposures for existing and future (2042 plus project) traffic conditions for the closest proposed setbacks to N. Thiele Avenue were approximately 49 dB L_{dn} and 52 dB L_{dn}, respectively. Such noise levels do not exceed the applicable City of Fresno exterior noise level standard of 65 dB L_{dn}, and mitigation measures are not required for compliance.

Railroad Noise Exposure

Union Pacific Railroad

The Union Pacific Railroad (UPR) mainline is located approximately 1,750 feet southwest of the project site. The railroad consists of a single-track mainline with continuously welded rail in the vicinity of the project site. There is a grade crossing located west of Herndon Avenue. Train engineers are required to sound warning horns when within approximately ¼ mile of a grade crossing. The estimated speed of trains passing the project site is 30-45 mph.

WJVA reviewed train noise level data previously obtained in the project vicinity, along the UPR line. Noise level monitoring was conducted by WJVA near the project site on June 30, 2016 to document typical noise levels from UPRR train movements in the project vicinity. Railroad noise measurements were conducted approximately 110 feet from the railroad line.

Noise monitoring equipment consisted of a Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2" microphone. This 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 placed on a tripod at five (5) feet above the ground.

A total of six (6) train movements were monitored. The average SEL for the six train movements was 108.1 dB and the average maximum noise level (L_{max}) was 102.0 dB. The SEL is a measure of

the total energy of a noise event, including consideration of event duration. The SEL is not actually heard, but is a derived value used for the calculation of energy-based noise exposure metrics such as the L_{dn} .

According to the U.S. Department of Transportation Railroad Crossing Inventory, an average of fourteen (14) freight train movements per day occur on the UPR mainline, in the project vicinity. Freight trains may occur at any time during the day or night. For the purpose of this analysis, it was assumed that the fourteen train movements are equally distributed over a 24-hour day.

Railroad noise exposure may be quantified in terms of the L_{dn} using the following formula:

$$L_{dn} = SEL + 10 \log Neq - 49.4$$

where,

SEL is the average SEL for a train pass-by, Neq is the equivalent number of pass-bys in a typical 24-hour period determined by adding 10 times the number of nighttime movements (10 p.m.-7 a.m.) to the actual number of daytime movements (7 a.m.-10 p.m.). 49.4 is a time constant equal to 10 times the log of the number of seconds in a day.

Using the above-described formula, railroad operations data and noise measurement results, the railroad noise exposure at the closest proposed lots to the UPR line was calculated to be approximately 57dB L_{dn} . Such noise levels do not exceed the applicable City of Fresno exterior noise level standard of 65 dB L_{dn} , and mitigation measures are not required for compliance.

High Speed Train

While construction is not complete and there is no immediate timeline regarding the operations of the high-speed train (HST), noise associated with HST operations was reviewed by WJVA.

According to the Revised HST DEIR/Supplemental DEIS (DEIR/SDEIS) for the Fresno-Bakersfield section of the HST project, the HST will use electrically powered trains capable of operating up to 220 mph over a fully grade-separated, dedicated track alignment. The HST line in the vicinity of the project area is elevated.

There are three major sources of noise associated with HST movements. At speeds up to 160 mph, the electric propulsion system and wheel/rail interaction are the predominant sources. At speeds above 160 mph, aerodynamic sound produced by the airflow moving past the train becomes the dominant source. The HST DEIR/SDEIS analyzed potential noise and vibration impacts from the HST line using the Federal Railroad Administration (FRA) *High-Speed Ground Transportation Noise and Vibration Impact Assessment Report* prepared in 2005 (FRA Guidance Manual). The FRA Guidance Manual is based upon comprehensive noise and vibration measurements conducted in Asia and Europe. The HST DEIR/SDEIS presents a series of tables that summarize projected HST noise levels along the proposed line in terms of the Day-Night Average Level (L_{dn}). The L_{dn} and CNEL are generally considered to be equivalent within +/- 1 dB.

The HST DEIR/SDEIS assumed that there would be 188 trains per day during the daytime hours (7:00 a.m.-10:00 p.m.) and 37 trains during the nighttime hours (10:00 p.m.-7:00 a.m.). For the section of the HST line that would pass through the project area, the projected L_{dn} is 72 dB at distance of 150 feet from the center of the tracks. Noise from the HST line would be expected to decrease with distance from the tracks at the rate of 3.0-4.5 dB for each doubling of distance. That means that the 65 dB L_{dn} contour could be located in the range of 400-750 feet from the center of the tracks. The project site is located approximately 1,750 from the HST line, at which distance noise associated with HST operations would be expected to be approximately 55-60 dB L_{dn} . Such noise levels do not exceed the applicable City of Fresno exterior noise level standard of 65 dB L_{dn} , and mitigation measures are not required for compliance.

Electrical Substation

There is an electrical substation located approximately 500 feet west of the project site. WJVA staff, while positioned in the approximate vicinity of the closest proposed lots to the substation, observed that noise levels associated with substation were not audible over existing ambient noise levels. Noise levels associated with the substation would not impact the project site.

Interior Noise Exposure

The City of Fresno interior noise level standard is 45 dB L_{dn} . The worst-case future noise exposure within the proposed residential development would be approximately 52 dB L_{dn} for the closest proposed lots to N. Thiele Avenue and (potentially) 60 dB L_{dn} for the closest lots to HST line. This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 15 dB (60-45=15).

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 the City's 45 dB L_{dn} interior standard at all proposed lots. 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 proposed 89-lot single-family residential development will comply with applicable City of Fresno exterior and interior noise level requirements provided the following that mechanical ventilation or air conditioning must be provided for all homes so that windows and doors can 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, railroad operations, 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 and railroad technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

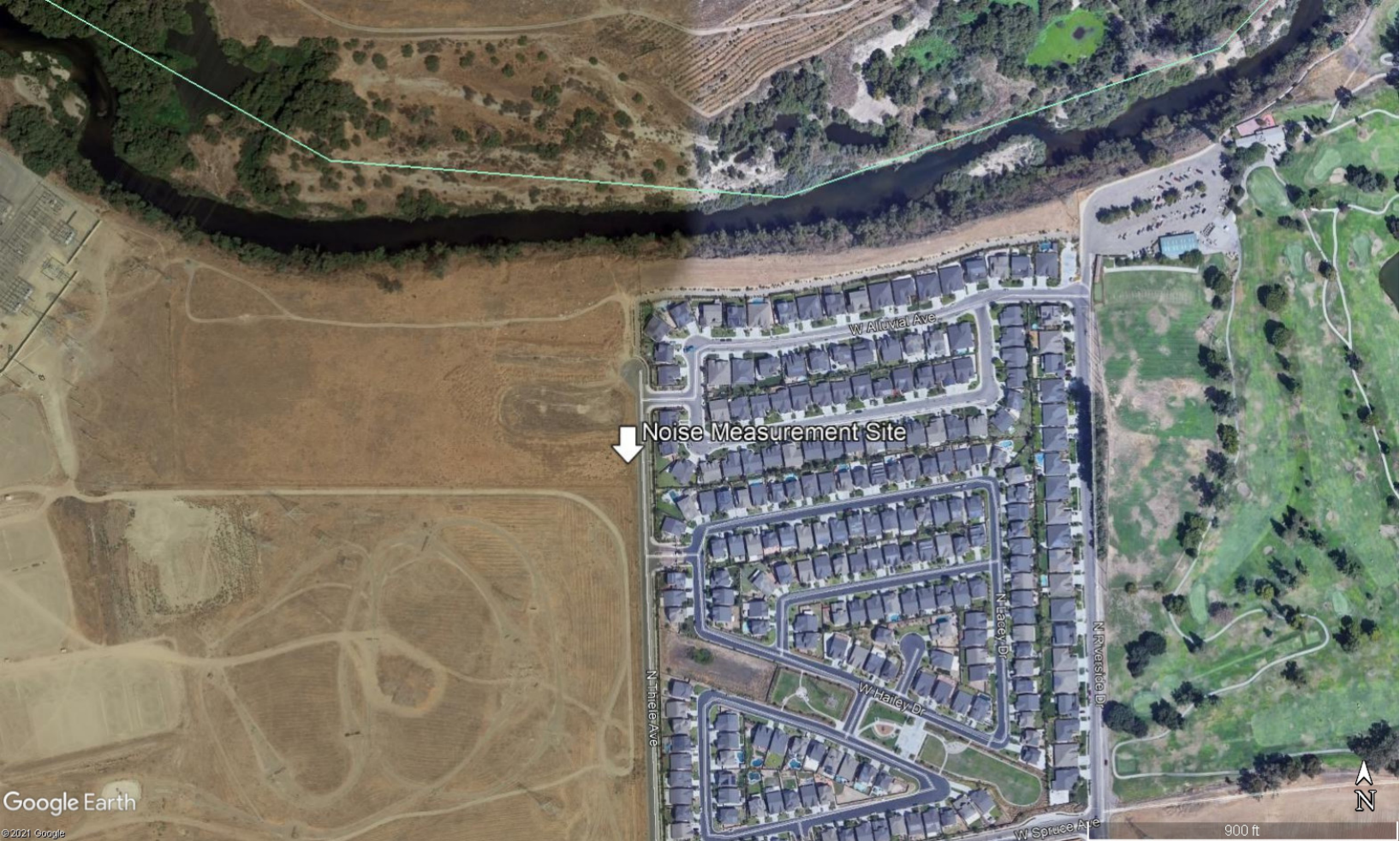
Respectfully submitted,



Walter J. Van Groningen
President

WJV:wjv

FIGURE 2: PROJECT SITE VICINITY AND NOISE MEASUREMENT LOCATION



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.

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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:

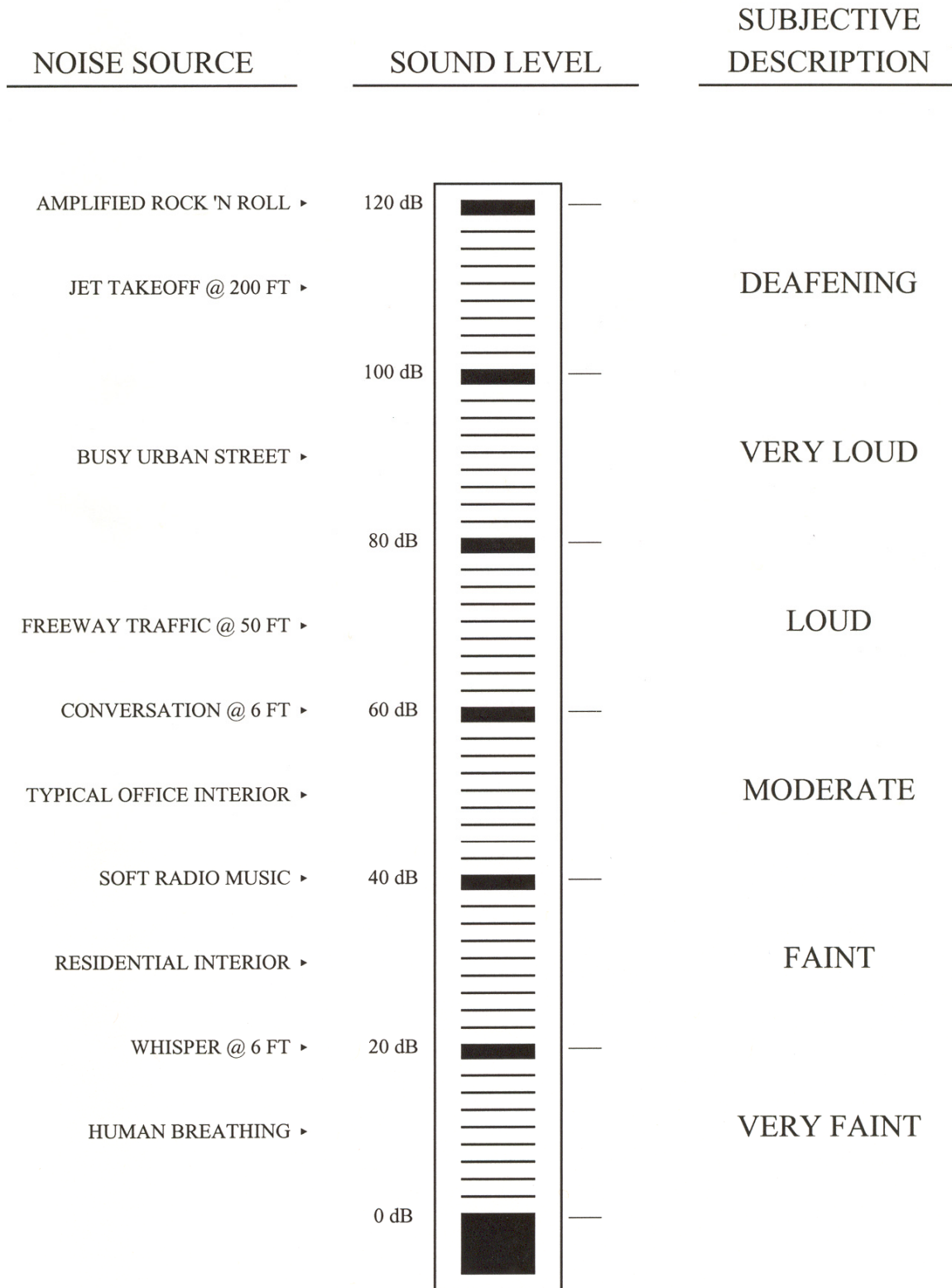
The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective 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 E

Draft Traffic Impact Analysis Report

Draft Traffic Impact Analysis Report

Tentative Tract 6195 (Single-Family Housing)

Located on the Northwest Quadrant of
Thiele Avenue and Spruce Avenue

In the City of Fresno, California

Prepared for:

Century Communities
7815 N. Palm Avenue, Ste. 101
Fresno, CA 93711

June 29, 2021

Project No. 004-131



Traffic Engineering, Transportation Planning, & Parking Solutions

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Traffic Engineering, Transportation Planning, & Parking Solutions

Draft Traffic Impact Analysis Report

For the Tentative Tract 6195 Project located on the Northwest Quadrant of Thiele Avenue and Spruce Avenue

In the City of Fresno, CA

June 29, 2021

This Draft Traffic Impact Analysis Report has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:

Jose Luis Benavides, PE, TE

President



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Introduction and Summary

Introduction

This Report describes a Draft Traffic Impact Analysis (TIA) prepared by JLB Traffic Engineering, Inc. (JLB) for the Tract 6195 (Project) located on the northwest quadrant of Thiele Avenue and Spruce Avenue in the City of Fresno. The Project proposes to develop approximately 17.58-acres with 89 single family residential units. Based on information provided to JLB, the Project will undergo a General Plan Amendment through the City of Fresno to change the land use designation from Regional Park and Public Facility to Medium Density Residential. Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of the TIA is to evaluate the potential on-site and off-site traffic impacts, identify short-term and long-term roadway needs, determine potential roadway improvement measures and identify any critical traffic issues that should be addressed in the ongoing planning process. The TIA primarily focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. An analysis of the Project's impact to Regional Vehicle Miles Traveled (VMT) is separated into its own report. The Scope of Work was prepared via consultation with City of Fresno, Fresno County and Caltrans staff.

Summary

The potential traffic impacts of the proposed Project were evaluated in accordance with the standards set forth by the Level of Service (LOS) policies of the City of Fresno, Fresno County and Caltrans, as well as the City of Fresno policy on VMT.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent five-year period. Based on a review of the collision reports, a total of fifty (50) collisions were reported within the influence zone of the study intersections. In the year 2018, the intersection of SR-99 Northbound Off-Ramp and Herndon Avenue experienced five (5) collisions. Of these collisions, three (3) were considered correctable by a change in traffic control to a roundabout. In the year 2020, the intersection of Parkway Drive and Herndon Avenue experienced five (5) collisions. Of these collisions, one (1) was considered correctable by a change in traffic control to a roundabout. Based on the number of correctable collisions, JLB does not recommend changes to the existing traffic controls on any of these intersections.
- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project Traffic Conditions

- The Project proposes to have two (2) access points along the west side of Thiele Avenue approximately 1,550 feet and 1,340 feet north of Spruce Avenue. Both of these access points are proposed as full access.
- JLB analyzed the location of the existing and proposed roadways and access points. This review revealed that all access points are located at points that minimize traffic operational impacts to existing and future roadway networks.
- At buildout, the proposed Project is estimated to generate a maximum of 840 daily trips, 66 AM peak hour trips and 88 PM peak hour trips.
- It is recommended that the Project implement a Class I Bikeway along the southside of the San Joaquin River from the western boundary of the Project to Thiele Avenue spanning approximately 1,200 feet.
- It is recommended that the Project implement ADA compliant pedestrian sidewalks along internal streets connecting all uses to external sidewalks and along its frontage to Thiele Avenue.
- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Near Term plus Project Traffic Conditions

- The total trip generation for the Near Term Projects is 47,039 weekday daily trips, 4,328 weekday AM peak hour trips and 4,890 weekday PM peak hour trips.
- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Cumulative Year 2042 No Project Traffic Conditions

- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods. However, queuing issues were identified at the eastbound left-turn movement at the intersection of Riverside Drive and Herndon Avenue. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Cumulative Year 2042 plus Project Traffic Conditions

- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods. However, queuing issues were identified at the eastbound left-turn movement at the intersection of Riverside Drive and Herndon Avenue. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Scope of Work

The TIA focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. On October 5, 2020, a Draft Scope of Work for the preparation of a Traffic Impact Analysis for this Project was provided to the City of Fresno, Fresno County and Caltrans for their review and comment. Any comments to the proposed Scope of Work were to be provided by October 26, 2020.

On October 12 2020, the City of Fresno replied to the Scope of Work that they would accept a Trip Generation Comparison Letter for the subject of the Project. JLB replied asking if a formal TIA was prepared, would the City accept the Scope of Work. On October 14, 2020 the City of Fresno replied that the Scope of Work was okay as it related to the LOS/Delay. On October 14, 2020 Caltrans accepted the Scope of Work with the recommendation that this TIA include the SR-99 interchange at Veterans Boulevard in all scenarios. On October 26, 2020 the County of Fresno accepted the Scope of Work as presented.

Based on the comments received, the TIA analyzes the study intersections assuming that the SR-99 interchange at Veterans Boulevard is built out under the Near Term Plus Project scenario. Based on communication with City of Fresno staff, it is anticipated that the interchange of SR 99 at Veterans Boulevard will be built by the end of the year 2023 which most closely coincides with the Near Term plus Project scenario. The Draft Scope of Work and the comments received from the lead agency and responsible agencies are included in Appendix A.

Study Facilities

The existing intersection peak hour turning movement and segment volume counts were conducted at the study intersections and segments while schools in the vicinity of the Project site were in session. The intersection turning movement counts included pedestrian and bicycle volumes. Segment Volume Counts were conducted in November 2020 and Peak Hour Turning Movement Counts were conducted in May 2021 with the exception of the intersection of SR-99 Northbound Off-Ramp and Herndon Avenue, which was conducted in February 2020. The Fresno Council of Governments (Fresno COG) model was used to derive a growth rate of 1.67%. This was used to expand the intersection of SR-99 Northbound Off-Ramp and Herndon Avenue 15 months. Higher than expected volume imbalances were detected between this intersection and the other study intersections for which counts were collected more recently. In order minimize traffic volume imbalances, surrounding intersections were expanded by rates determined by the magnitude of the imbalance relative to each movement or intersection. The segment volume counts were also expanded by a rate of 1.67%, derived from the Fresno COG model, for 6 months. The resulting peak hour and segment volumes are referred to as the Baseline Volumes. The traffic counts for the existing study intersections and segments are contained in Appendix B. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 2.

Study Intersections

Location

1. Thiele Avenue / Spruce Avenue
2. Riverside Drive / Spruce Avenue
3. Riverside Drive / Herndon Avenue
4. Golden State Boulevard / Herndon Avenue
5. SR-99 Northbound Off-Ramp / Herndon Avenue
6. Parkway Drive / Herndon Avenue
7. Grantland Avenue / Parkway Drive

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from traffic counts and field surveys conducted in February 2020 and May 2021. The counts were adjusted upwards to create the Baseline Volumes, described in the Study Facilities section of this Report.

Existing plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Traffic Conditions. The Existing plus Project traffic volumes were obtained by adding the Project Only Trips to the Baseline Volumes. The Project Only Trips to the study facilities were developed based on existing travel patterns, the Fresno COG Project Select Zone, the surrounding roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the *Fresno General Plan* Circulation Element in the vicinity of the Project site. The Fresno COG Project Select Zone results are contained in Appendix C.

Near Term plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Near Term plus Project Traffic Conditions. The Near Term plus Project traffic volumes were obtained by adding the Near Term related trips to the Existing plus Project Traffic Conditions scenario.

Cumulative Year 2042 No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2042 No Project Traffic Conditions. The Cumulative Year 2042 No Project traffic volumes were obtained by subtracting the Project Only Trips from the Cumulative Year 2042 plus Project scenario.

Cumulative Year 2042 plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadways conditions based on the Cumulative Year 2042 plus Project Traffic Conditions. The Cumulative Year 2042 plus Project traffic volumes were obtained by using a combination of the Fresno COG activity-based model (ABM) (Base Year 2020 and Cumulative Year 2035) and existing traffic counts. Under this scenario, the increment method, as recommended by the Model Steering Committee was utilized to determine the Cumulative Year 2035 traffic volumes. The

Cumulative Year 2035 traffic volumes were expanded by the model derived growth rate of 1.67% for 7 years to create the Cumulative Year 2042 traffic volumes. One reason why the growth rate appears relatively small is that with the construction of the Veterans Boulevard interchange traffic volumes along Hendon Avenue west of the connection to the future Veterans Boulevard are projected to drop. This is because the existing and future traffic volumes on Herndon Avenue between Parkway Drive and Veterans Boulevard and on Grantland Avenue between Shaw Avenue and Herndon Avenue will shift to Veterans Boulevard. The Fresno COG ABM results are contained in Appendix C.



LOS Methodology

LOS is a qualitative index of the performance of an element of the transportation system. LOS is a rating scale running from “A” to “F”, with “A” indicating no congestion of any kind and “F” indicating unacceptable congestion and delays. LOS in this study describes the operating conditions for signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM) 6th Edition is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. U-turn movements were analyzed using HCM 2000 methodologies and would yield more accurate results for the reason that HCM 6 Edition methodologies do not allow the analysis of U-turns. Lane configurations not reflective of existing conditions are a result of software limitations and thus represent a worst-case scenario. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D.

While LOS is no longer the criteria of significance for traffic impacts in the state of California, the City of Fresno continues to apply congestion-related conditions or requirements for land development projects through planning approval processes outside of CEQA Guidelines in order to continue the implementation of *Fresno General Plan* policies.

LOS Thresholds

The *Fresno General Plan* has established various degrees of acceptable LOS on its major streets, which are dependent on four (4) Traffic Impact Zones (TIZ) within the City (City of Fresno 2014). The standard LOS threshold for TIZ I is LOS F, that for TIZ II is LOS E, that for TIZ III is LOS D, and that for TIZ IV is LOS E. Additionally, the 2035 MEIR made findings of overriding consideration to allow a lower LOS threshold than that established by the underlying TIZ's. For those cases in which a LOS criterion for a roadway segment differs from that of the underlying TIZ, such criteria are identified in the roadway description. As all the study facilities fall within TIZ III, LOS D is used to evaluate the potential LOS impacts for the study intersections within the City of Fresno pursuant to the *Fresno General Plan*.

The *Fresno County General Plan* has established LOS C as the acceptable level of traffic congestion on county roads and streets that fall entirely outside the Sphere of Influence (SOI) of a City (Fresno County 2000). For those areas that fall within the SOI of a City, the LOS threshold of the City is used in this report. In this case, no study facilities fall within the County of Fresno SOI, therefore, the City of Fresno LOS thresholds are utilized.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities consistent with the *Guide for The Preparation of Traffic Impact Studies* (Caltrans 2002). However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. In this TIA, the study intersection of SR-99 Northbound Off-Ramp and Herndon Avenue falls within Caltrans' jurisdiction. Since this intersection falls under Caltrans SOI, LOS C is used to evaluate the potential LOS impacts for the study intersection of SR-99 Northbound Off-Ramp and Herndon Avenue.

Operational Analysis Assumptions and Defaults

The following operational analysis values, assumptions and defaults were used in this study to ensure a consistent analysis of LOS among the various scenarios.

- Yellow time consistent with the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) based on approach speeds (Caltrans 2020)
- Yellow time of 3.2 seconds for left-turn phases
- All-red clearance intervals of 1.0 second for all phases
- Walk intervals of 7.0 seconds
- Flashing Don't Walk based on 3.5 feet/second walking speed with yellow plus all-red clearance subtracted and 2.0 seconds added
- At existing intersections, the heavy vehicle factor observed for each intersection or a minimum of 3 percent were utilized under all scenarios.
- The number of observed pedestrians at existing intersections was utilized under all study scenarios.
- An average of 10 pedestrian calls per hour at signalized intersections.
- At existing intersections, the observed approach Peak Hour Factor (PHF) is utilized in the Existing, Existing plus Project and Near Term plus Project scenarios.
- For the Cumulative Year 2042 scenario, the following PHF was utilized to reflect traffic operations and an increase in future traffic volumes. As roadways start to reach their saturated flow rates, PHF's tend to increase to 0.90 or higher in urban settings. A PHF of 0.92, or the existing PHF if higher, is utilized for all remaining study intersections.

Existing Traffic Conditions

Roadway Network

The Project site and surrounding study area are illustrated in Figure 1. Important roadways serving the Project are discussed below.

Thiele Avenue is an existing two-lane north-south undivided local street adjacent to the proposed Project. In this area, Thiele Avenue extends between Van Buren Avenue and Oak Avenue. The City of Fresno General Plan Circulation Element designates Thiele Avenue as a two-lane undivided local roadway between Oak Avenue and Van Buren Avenue.

Spruce Avenue is an existing two-lane east-west undivided collector in the vicinity of the proposed Project. In this area, Spruce Avenue extends between Thiele Avenue and Polk Avenue. The City of Fresno 2035 General Plan Circulation Element designates Spruce Avenue as a two-lane collector between Thiele Avenue and Riverside Drive and a four-lane collector between Riverside Drive and Polk Avenue.

Herndon Avenue is an existing east-west predominantly four-lane divided expressway in the vicinity of the proposed Project. Herndon Avenue extends through the City of Fresno westerly beyond its intersection with State Route 99 and easterly beyond the City of Clovis. The City of Fresno 2035 General Plan Circulation Element designates Herndon Avenue as a four-lane scenic arterial between Parkway Drive and Golden State Boulevard, as a six-lane scenic arterial between Golden State Boulevard and Riverside Drive, and as a six-lane divided expressway between Golden State Boulevard and Willow Avenue. The City of Fresno 2035 General Plan Circulation Element acknowledged that Herndon Avenue would exceed LOS D at various locations as a six-lane facility. Herndon Avenue was ultimately established at LOS E as a six-lane facility within the City of Fresno between State Route 99 and Golden State Boulevard in the PM peak hour.

Riverside Drive is a two- to four-lane north-south street in the vicinity of the proposed Project. Currently, Riverside Drive extends north from its connection with Veterans Boulevard for approximately 1.3 miles. The City of Fresno 2035 General Plan Circulation Element designates Riverside Drive between Sierra Avenue and Spruce Avenue as a four-lane divided arterial. North of Spruce Avenue, Riverside Drive is designated as a local residential street.

Golden State Boulevard is a two- to four-lane undivided collector in the vicinity of the proposed Project. Golden State Boulevard is a diagonal northwest-southeast roadway that extends south of Herndon Avenue. North of Herndon Avenue, Golden State Boulevard terminates as the on- and off-ramps to Herndon Avenue from State Route 99. The City of Fresno 2035 General Plan Circulation Element designates Golden State Boulevard as a four-lane collector south of Herndon Avenue.

SR-99 Northbound Off-Ramp is an existing northbound predominantly one-lane freeway off-ramp in the vicinity of the proposed Project. The Caltrans' State Route 99 TCR acknowledged that State Route 99 would exceed LOS D as a four-lane freeway between Shaw Avenue and Fresno/Madera County line. However, the TCR made the appropriate findings to designate LOS F as the criteria of significance for this segment of State Route 99.

Parkway Drive is an existing two-lane undivided roadway in the vicinity of the proposed Project. In this area, Parkway Drive is a collector north of Herndon Avenue and a super arterial between Herndon Avenue and Grantland Avenue. The City of Fresno 2035 General Plan Circulation Element designates Parkway Drive as a four-lane super arterial between Herndon Avenue and Grantland Avenue.

Grantland Avenue is an existing two-lane divided arterial in the vicinity of the proposed Project. In this area, Grantland Avenue extends south of Parkway Drive. The 2035 General Plan Circulation Element designates Grantland Avenue as a two-lane arterial between Parkway Drive and Shaw Avenue.

Collision Analysis

JLB conducted a search of SWITRS to obtain collision reports for the most recent five-year period (January 1st, 2016 to December 31st, 2020). The SWITRS “is a database that serves as a means to collect and process data gathered from a collision scene. The internet SWITRS application is a tool by which the California Highway Patrol (CHP) staff and members of its Allied Agencies throughout California can request various types of statistical reports in an electronic format.” All collision reports between January 1st, 2016 and December 31st, 2020 were included in the collision analysis. In the five-year period, a total of fifty (50) collisions were reported within the influence zone (assumed to be within 250 feet) of the study intersections. The SWITRS collision data are found in Appendix E.

Table I summarizes the type of collision, severity, violation, and identifies involvement with another vehicle, a pedestrian/bicyclist or a fixed object. Based on the five-year collision data contained within SWITRS, all study intersections have experienced a relatively low number and severity of collisions per year with two exceptions. The exceptions are the intersections of SR-99 Northbound Off-Ramp and Herndon Avenue and Parkway Drive and Herndon Avenue.

- The intersection of SR-99 Northbound Off-Ramp and Herndon Avenue experienced a total of nineteen (19) collisions during the five-year period. The types of collisions reported include fifteen (15) rear-ends, one (1) hit object and three (3) sideswipes. There were zero (0) fatal or severe injuries reported. Furthermore, the type of collisions reported include thirteen (13) unsafe speeds, one (1) improper turning, one (1) driving under the influence and four (4) classified as other.
- The intersection of Parkway Drive and Herndon Avenue experienced a total of nineteen collisions during the five-year period. The types of collisions reported include three (3) broadsides, six (6) rear-ends, one (1) head-on, four (4) sideswipes and one (1) other. There were zero (0) fatalities and one (1) severe injury reported. Furthermore, the type of collisions reported include one (1) right-of-way, six (6) unsafe speeds, three (3) improper turns, four (4) driving under the influence and five (5) classified as other.

After thorough review of the data contained within the collision reports for the five-year analysis period, JLB found that for the study intersection of SR-99 Northbound Off-Ramp and Herndon Avenue as many as five (5) collisions occurred within a 12-month period during 2018. It was deemed that three (3) out of these five (5) collisions were correctable by a change in traffic control to a roundabout. It was also found that for the intersection of Parkway Drive and Herndon Avenue as many as five (5) collisions occurred within a 12-month period during 2020. It was deemed that one (1) out of these five (5) collisions were

correctable by a change in traffic control to a roundabout. Based on the number of correctable collisions, JLB does not recommend changes to the existing traffic controls an any of these intersections.

Table I: Five-Year (2016-2020) Intersection Collision Analysis

ID	Intersection	Number of Collisions	Type of Collision					Severity				Type of Violation					Motor Vehicle Involved with...							
			Broadside	Rear End	Head-On	Hit Object	Sideswipe	Other	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain/Injury	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Improper Turning	Driving Under Influence	Other	Pedestrian/Bicyclist	Other Motor Vehicle	Fixed Object	Other	
1	Thiele Avenue / Spruce Avenue	1	-	-	-	1	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	1	-
2	Riverside Drive / Spruce Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Riverside Drive / Herndon Avenue	4	-	2	-	1	1	-	-	-	2	2	-	-	3	-	-	1	-	3	1	-	-	
4	Golden State Boulevard / Herndon Avenue	1	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	1	-	-	-	
5	SR-99 NB Off-Ramp / Herndon Avenue	19	-	15	-	1	3	-	-	2	2	15	-	-	13	1	1	4	-	17	1	1	-	
6	Parkway Drive / Herndon Avenue	19	3	6	1	4	4	1	-	1	-	6	12	-	1	6	3	4	5	-	14	4	1	
7	Grantland Avenue / Parkway Drive	6	1	3	-	2	-	-	-	-	-	6	1	-	2	1	2	-	-	4	2	-	-	
Totals		50	4	26	1	9	9	1	-	1	2	10	37	1	2	25	5	7	10	-	39	9	2	

Traffic Signal Warrants

The CA MUTCD indicates that an engineering study of traffic conditions, pedestrian characteristics and physical features of an intersection shall be conducted to determine whether the installation of traffic signal controls are justified. The CA MUTCD provides a total of nine (9) warrants to evaluate the need for traffic signal controls. These warrants include 1) Eight-Hour Vehicular Volume, 2) Four-Hour Vehicular Volume, 3) Peak Hour, 4) Pedestrian Volume, 5) School Crossing, 6) Coordinated Signal System, 7) Crash Experience, 8) Roadway Network and 9) Intersection Near a Grade Crossing. Signalization of an intersection may be appropriate if one or more of the signal warrants is satisfied. However, the CA MUTCD also states that “[t]he satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic control signal” (Caltrans 2020).

If traffic signal warrants are satisfied when a LOS threshold impact is identified at an unsignalized intersection, then installation of a traffic signal control may serve as an improvement measure. For instances where traffic signal warrants are satisfied, a traffic signal control is not considered to be the default improvement measure. Since the installation of a traffic signal control typically requires the construction of additional lanes, an attempt is made to improve the intersection approach lane geometrics in order to improve its LOS while maintaining the existing intersection controls. If the additional lanes did not result in acceptable LOS at the intersection, then in those cases implementation of a traffic signal control would be considered.

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Existing Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, no unsignalized study intersection satisfies either Warrant 1, 2 or 3. Based on the traffic signal warrants, operational analysis and engineering judgment, it is not recommended that the City consider implementing traffic signal controls at any of the unsignalized study intersections especially since these operate at an acceptable LOS during both peak periods under stop sign control.

Results of Existing Level of Service Analysis

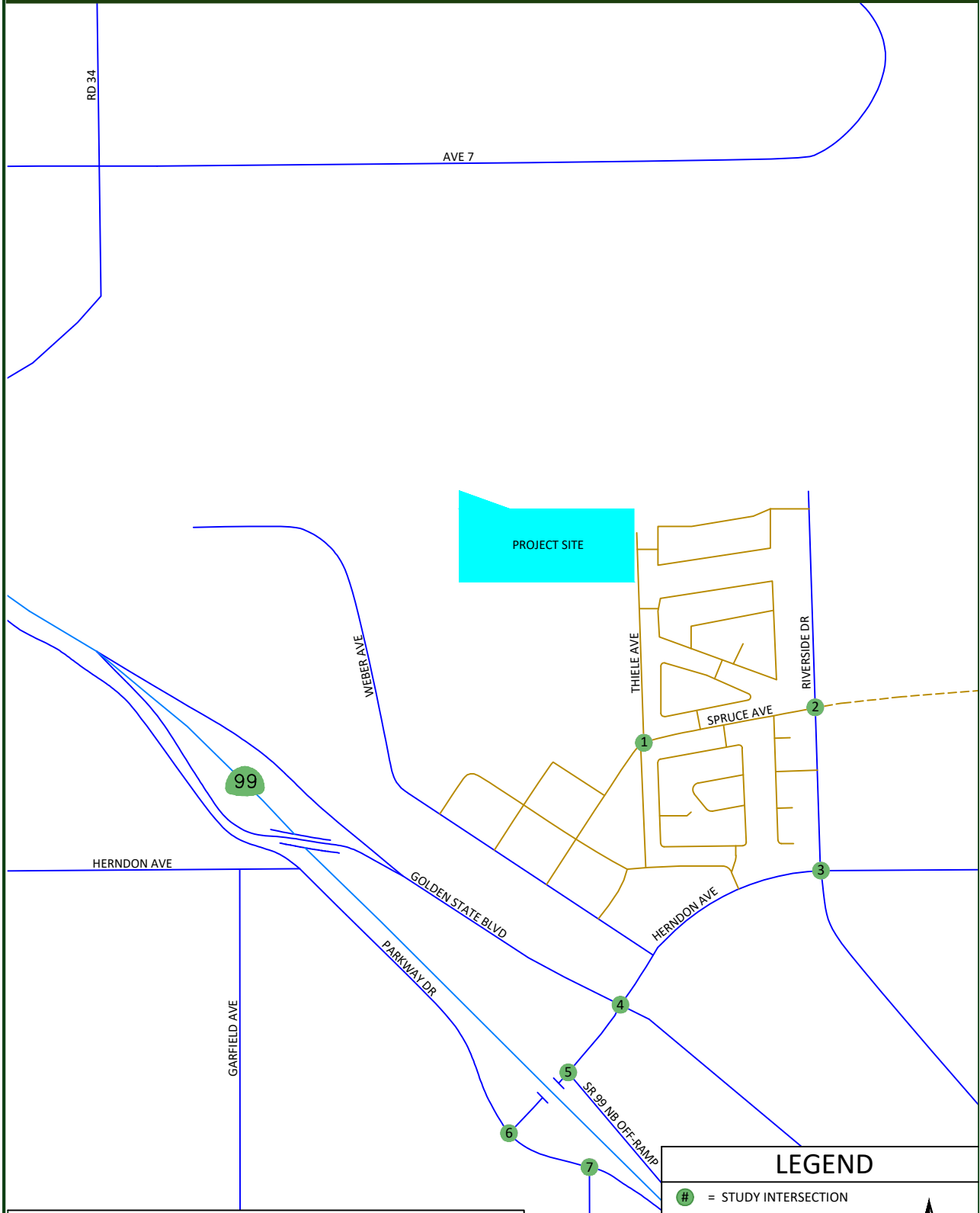
Figure 2 illustrates the Existing Traffic Conditions turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing Traffic Conditions scenario are provided in Appendix F. Table II presents a summary of the Existing peak hour LOS at the study intersections.

At present, all study intersections operate at an acceptable LOS during both peak periods.

Table II: Existing Intersection LOS Results

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Thiele Avenue / Spruce Avenue	Two-Way Stop	9.5	A	9.2	A
2	Riverside Drive / Spruce Avenue	All-Way Stop	7.8	A	8.2	A
3	Riverside Drive / Herndon Avenue	Traffic Signal	32.0	C	45.4	D
4	Golden State Boulevard / Herndon Avenue	Traffic Signal	29.4	C	29.2	C
5	SR 99 NB Off-Ramp / Herndon Avenue	Traffic Signal	12.9	B	18.0	B
6	Parkway Drive / Herndon Avenue	Traffic Signal	22.7	C	20.6	C
7	Grantland Avenue / Parkway Drive	Traffic Signal	0.5	A	0.4	A

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
 LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.



LEGEND

- # = STUDY INTERSECTION
- - - = FUTURE ROADWAY



Not To Scale

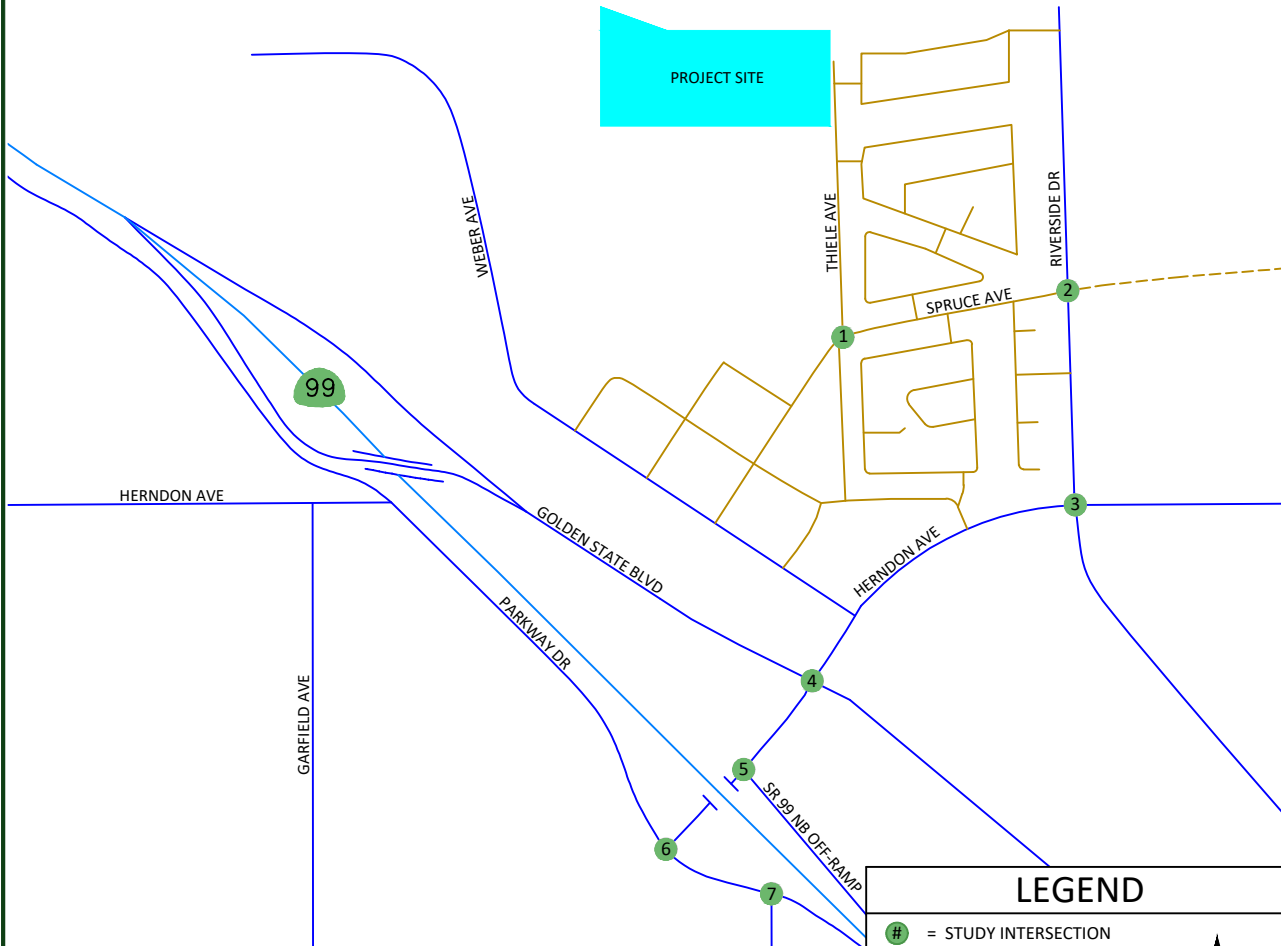
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Tract 6195 - City of Fresno Existing - Traffic Volumes, Geometrics and Controls

Figure 2

<p>1. Thiele Ave & Spruce Ave</p> <p>Thiele Ave Elgin Ave Spruce Ave</p> <p>8(3) 12(4) 24(12) 4(1) 12(22) 5(2) 7(5) 23(24) 0(1) 0(8) 5(6)</p>	<p>2. Riverside Dr & Spruce Ave</p> <p>Riverside Dr Spruce Ave</p> <p>1(2) 47(69) 4(5) 86(65) 28(55) 44(74)</p>	<p>3. Riverside Dr & Herndon Ave</p> <p>Riverside Dr Herndon Ave</p> <p>37(27) 28(40) 74(74) 49(66) 1321(1124) 61(214) 1(0) 78(166) 23(34) 1113(1265) 109(234) 0(10) 242(330) 19(36) 64(205)</p>	<p>4. Golden State Blvd & Herndon Ave</p> <p>Golden State Blvd Herndon Ave</p> <p>134(145) 69(111) 464(600) 737(542) 961(1099) 29(51) 0(3) 0(5) 196(87) 863(1131) 65(45) 65(51) 120(66) 37(83)</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p> <p>Herndon Ave SR 99 NB Ramp</p> <p>1160(1300) 713(599) 54(116) 411(669)</p>	<p>6. Parkway Dr & Herndon Ave</p> <p>Parkway Dr Herndon Ave</p> <p>53(68) 290(257) 286(339) 928(1077) 5(9) 423(342)</p>	<p>7. Grantland Ave & Parkway Dr</p> <p>Parkway Dr Grantland Ave SR 99 SB Ramp</p> <p>712(607) 264(545) 428(338) 237(104)</p>	



LEGEND

- # = STUDY INTERSECTION
- - - = FUTURE ROADWAY
- ⬮ = STOP SIGN
- 🚦 = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

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Existing plus Project Traffic Conditions

Project Description

The Project is proposing to develop approximately 17.58-acres with 89 single family residential units. Based on information provided to JLB, the Project will undergo a General Plan Amendment through the City of Fresno to change the land use designation from Regional Park and Public Facility to Medium Density Residential. Figure 3 illustrates the latest Project Site Plan.

Project Access

Based on the Project Site Plan, access to and from the Project site will predominantly be from two (2) access points. Both access points will be located along the west side of Thiele Avenue. The first access point will be approximately 1,550 feet north of Spruce Avenue and is proposed as a full access point. The second access point will be approximately 1,340 feet north of Spruce Avenue and is proposed as a full access point.

JLB analyzed the location of the existing and proposed roadways and access points relative to those in the vicinity of the Project site. A review of the existing and proposed roadways and access points indicates that they are located at points that minimize traffic operational impacts to existing and future roadway networks. A Project Site Plan can be found in Figure 3.

Project Trip Generation

The trip generation rates for the proposed Project were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table III presents the trip generation for the Project with trip generation rates for 89 Single-Family Detached Houses. For the existing land use, the square footage for General Light Industrial was derived by applying a floor to area ratio of 35% to the net acreage zoned for this use. The 35% floor to area ratio was derived from previous projects of similar size. For the Public Park component, net acreage was used to determine its trip generation. At buildout, the proposed Project is estimated to generate a maximum of 840 daily trips, 66 AM peak hour trips and 88 PM peak hour trips. Table IV presents the trip generation of that which could otherwise be developed for the Existing Land Use with trip generation rates for a Public Park and General Light Industrial. The Existing General Plan land use is anticipated to generate a maximum of 184 daily trips, 24 AM peak hour trips and 24 PM peak hour trips. Compared to the Existing General Plan land use, the proposed Project is estimated to yield a greater trip generation by 656 daily trips, 42 AM peak hour trips and 64 PM peak hour trips. The difference in the trip generation between the proposed Project and the Existing General Plan Land Use is summarized in Table V.

Table III: Project Trip Generation

Land Use (ITE Code)	Size	Unit	Daily		AM (7-9) Peak Hour						PM (4-6) Peak Hour					
			Rate	Total	Trip Rate	In	Out	In	Out	Total	Trip Rate	In	Out	In	Out	Total
						%						%				
Single-Family Detached Housing (210)	89	d.u.	9.44	840	0.74	25	75	16	50	66	0.99	63	37	55	33	88
Total Driveway Trips				840				16	50	66				55	33	88

Note: d.u. = Dwelling Units

Table IV: Existing General Plan Land Use Trip Generation

Land Use (ITE Code)	Size	Unit	Daily		AM (7-9) Peak Hour						PM (4-6) Peak Hour					
			Rate	Total	Trip Rate	In	Out	In	Out	Total	Trip Rate	In	Out	In	Out	Total
						%						%				
Public Park (411)	15.300	acres	0.02	12	0.02	59	41	0	0	0	0.11	55	45	1	1	2
General Light Industrial (110)	34.761	k.s.f.	4.96	172	0.70	88	12	21	3	24	0.63	13	87	3	19	22
Total Driveway Trips				184				21	3	24				4	20	24

Note: k.s.f. = A Thousand Square Feet

Table V: Difference in Trip Generation

Land Use (ITE Code)	Daily	AM (7-9) Peak Hour			PM (4-6) Peak Hour		
	Total	In	Out	Total	In	Out	Total
Project Trip Generation	840	16	50	66	55	33	88
Existing General Plan Land Use	184	21	3	24	4	20	24
Net New Project Trips	656	-5	47	42	51	13	64

Trip Distribution

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities and the *Fresno General Plan* Circulation Element in the vicinity of the Project site. The Project's trip generation data was provided to Fresno COG in order to conduct a Project-specific Traffic Analysis Zone (TAZ) analysis using the Fresno COG ABM (Cumulative Year 2035). The Fresno COG Project Select Zone results are contained in Appendix C. Figure 4 illustrates the Project Only Trips at the study intersections.

Active Transportation Plan

The Fresno Active Transportation Plan (ATP) is an extensive guide detailing the conception for active transportation in the City of Fresno that was adopted in December 2016. This ATP aims to improve the safety, increase non-motorized trips, improve access and fill in gaps in networks for Fresno's pedestrians and bicyclists. In order to achieve these goals for active transportation, this ATP proposes a comprehensive network of citywide bikeways, trails and sidewalks. The recommended network would add 166 miles of Class I Bike Paths, 691 miles of Class II Bike Lanes, 69 miles of Class III Bike Routes, 21 miles of Class IV Separated Bikeways and 661 miles of sidewalks. This ATP also recommends bicycle detection at traffic signals, destination signage, bicycle parking, showers and changing facilities and bikeway maintenance. This network will be constructed in conjunction with adjacent land developments, roadway maintenance and active transportation infrastructure projects using funds from different local, state and federal sources.

Bikeways

The *Fresno ATP* classifies bicycle facilities into the following types:

- Class I Bikeway (Bike Path) – Provides a completely separated right-of-way for exclusive use of bicycles and pedestrians with crossflow minimized.
- Class II Bikeway (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.
- Class III Bikeway (Bike Route) – Provides a shared use with pedestrians or motor vehicle traffic, typically on lower volume roadways.
- Class IV Bikeways (Separated Bikeways) – Provides a protected lane for one-way bike travel (one-way cycle track) and protected lanes for two-way bike travel (two-way cycle track) on a street or highway.

Class II (Bike Lane) Bikeways exist in the vicinity of the Project site. In the vicinity of the Project site, Class II Bikeways exist along portions of Herndon Avenue, Spruce Avenue (east of Riverside Drive) and Riverside Drive (south of Spruce Avenue). The *Fresno ATP* recommends that a combination of Class I and Class II Bikeways be implemented adjacent to and in the vicinity of the Project site (City of Fresno 2016). Adjacent to the Project site, a Class I Bikeway is planned along the southside of the San Joaquin River from the western boundary of the Project to Thiele Avenue spanning approximately 1,200 feet. In the vicinity of the Project site, Class I Bikeways are planned on Herndon Avenue between SR-99 and Willow Avenue and on Riverside Drive north of Herndon Avenue. Class II Bikeways are planned along portions of Spruce Avenue, Riverside Drive, Parkway Drive and Grantland Avenue. In addition to this, sidewalks are planned along Weber Avenue north of Cattern Avenue. Therefore, it is recommended that the Project construct an adjacent Class I Bikeway along the southside of the San Joaquin River from the western boundary of the Project to Thiele Avenue spanning approximately 1,200 feet.

Walkways

The *Fresno ATP* classifies pedestrian facilities into sidewalks and Class I Bike Paths. Pedestrian sidewalks exist in the vicinity of the Project site along portions of Herndon Avenue, Spruce Avenue, Riverside Drive and Thiele Avenue. The *Fresno ATP* recommends that pedestrian sidewalks be implemented in the vicinity of the Project site along Weber Avenue north of Cattern Avenue and unbuilt portions of Spruce Avenue. Therefore, it is recommended the Project construct ADA compliant pedestrian sidewalks along internal streets connecting all uses to external sidewalks and along its frontage to Thiele Avenue

Transit

Fresno Area Express (FAX), is the transit operator in the City of Fresno. At present, there are two (2) FAX transit routes that operate in the vicinity of the proposed Project site, Routes 3 and 20. FAX Route 3, which runs on a portion of Herndon Avenue, operates at 45-minute intervals on weekdays and weekends. The nearest stop on this route to the Project site is located along the west side of Riverside Drive approximately 1,150 feet south of Herndon Avenue. This route provides a direct connection to El Paseo Shopping Center, Rio Vista Middle School, St. Agnes Urgent Care, United Health Center, Walmart on Brawley Avenue and Shaw Avenue, Pinedale Library, St. Agnes Medical Center, West Coast Bible College, Clovis Commons, Target on Willow Avenue and Herndon Avenue and Peachwood Medical. FAX Route 20, which runs on Herndon Avenue, operates at 45-minute intervals on weekdays and weekends. The nearest stop on this route to the Project site is located along the west side of Riverside Drive approximately 1,150 feet south of Herndon Avenue. This route provides a direct connection El Paseo Shopping Center, Rio Vista Middle School, Figarden Loop Park, Walmart on Brawley Avenue and Shaw Avenue, Fresno High School, Fresno City College and the VA Medical Center. It is worth noting that retention of the existing and expansion of future transit routes is dependent on transit ridership demand and available funding.

Safe Routes to School

Kindergarten through 12th grade students from the Project will be served by the Central Unified School District (CUSD). CUSD provides transportation for students who live in excess of an established radius zone. The zone is a radius of 1 mile for grades Kindergarten through 6th and 2 miles for grades 7th through 12th.

Based on attendance area boundaries at the time of the preparation of this TIA, elementary school students would attend River Bluff Elementary School located at the northeast quadrant of Riverside Drive and Palo Alto Avenue. River Bluff Elementary School is located 0.90 and 1.1 miles from the nearest and farthest future home on the Project. However, in accordance with Central Unified School District unwritten policy, students of the Rio Vista Middle School and River Bluff Elementary School that reside north of Herndon Avenue are provided with bus transportation to and from school. Therefore, it is anticipated that elementary school students will be bused from the Project to school.

Based on the attendance area boundaries at the time of the preparation of this TIA, middle school students would attend Rio Vista Middle School located at the northeast quadrant of Riverside Drive and Palo Alto Avenue. Rio Vista Middle School is located 0.9 and 1.1 miles from the nearest and farthest future home on the Project. However, in accordance with Central Unified School District unwritten policy, students of the Rio Vista Middle School and River Bluff Elementary School that reside north of Herndon

Avenue are provided with bus transportation to and from school. Therefore, it is anticipated that middle school students will be bused from the Project to school.

Based on the attendance area boundaries at the time of the preparation of this TIA, high school students would attend Garza High School located on the northeast corner of Grantland Avenue and Ashlan Avenue. Garza High School is located 3.0 and 3.1 miles from the nearest and farthest future home on the Project. Therefore, it is anticipated that high school students will be bused from the Project to school.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Existing plus Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, no unsignalized study intersection is projected to satisfy Warrant 3. Based on the traffic signal warrants, operational analysis and engineering judgment, it is not recommended that the City consider implementing traffic signal controls at any of the unsignalized study intersections especially since these are projected to operate at an acceptable LOS during both peak periods under stop sign control.

Results of Existing plus Project Level of Service Analysis

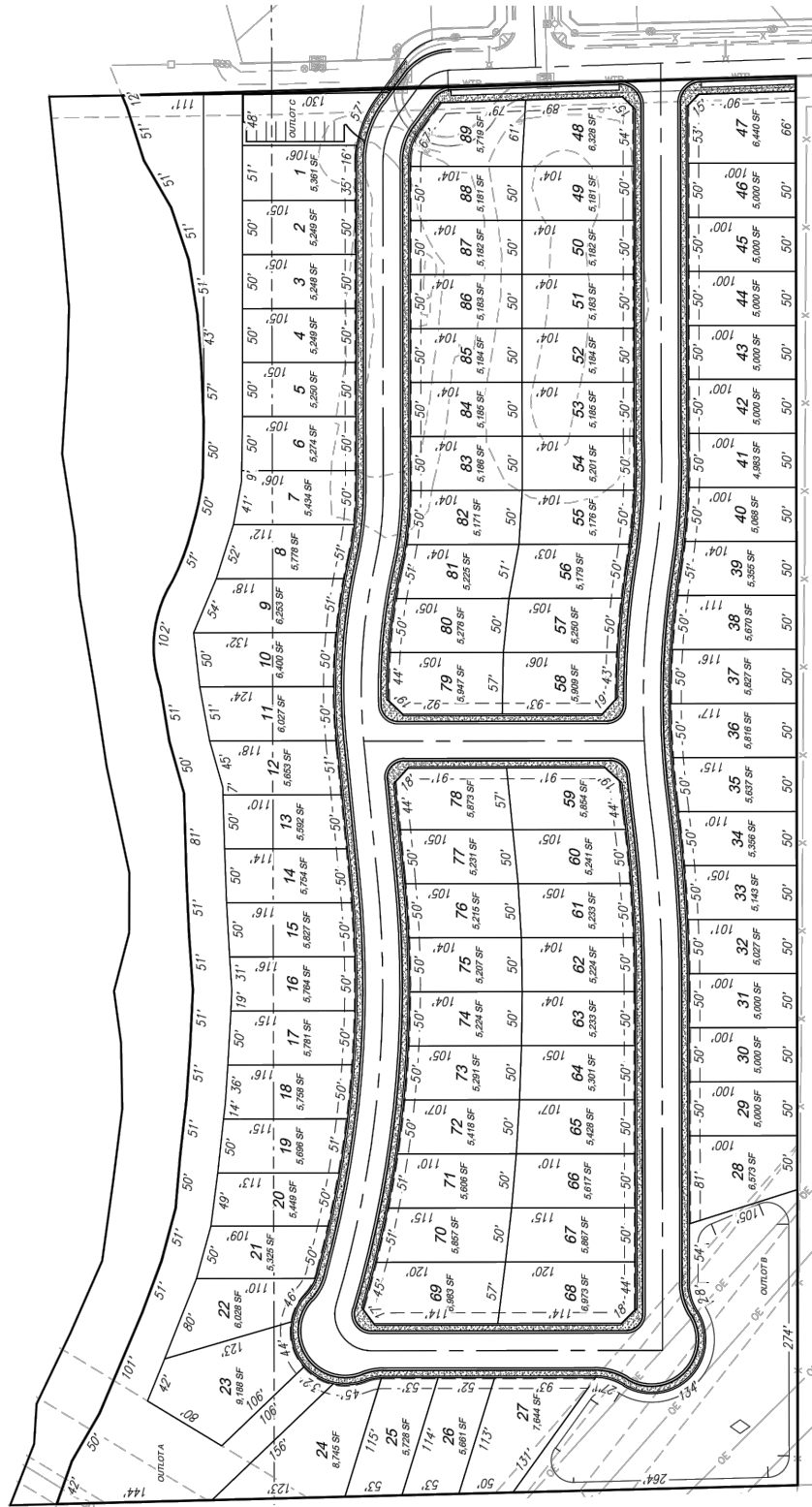
The Existing plus Project Traffic Conditions scenario assumes the existing roadway geometrics and traffic controls will remain in place. Figure 5 illustrates the Existing plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project Traffic Conditions scenario are provided in Appendix G. Table VI presents a summary of the Existing plus Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Table VI: Existing plus Project Intersection LOS Results

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Thiele Avenue / Spruce Avenue	Two-Way Stop	10.3	B	9.7	A
2	Riverside Drive / Spruce Avenue	All-Way Stop	8.1	A	8.6	A
3	Riverside Drive / Herndon Avenue	Traffic Signal	33.1	C	40.6	D
4	Golden State Boulevard / Herndon Avenue	Traffic Signal	29.5	C	30.0	C
5	SR 99 NB Off-Ramp / Herndon Avenue	Traffic Signal	14.2	B	29.4	C
6	Parkway Drive / Herndon Avenue	Traffic Signal	22.9	C	48.0	D
7	Grantland Avenue / Parkway Drive	Traffic Signal	0.5	A	0.4	A

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
 LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.



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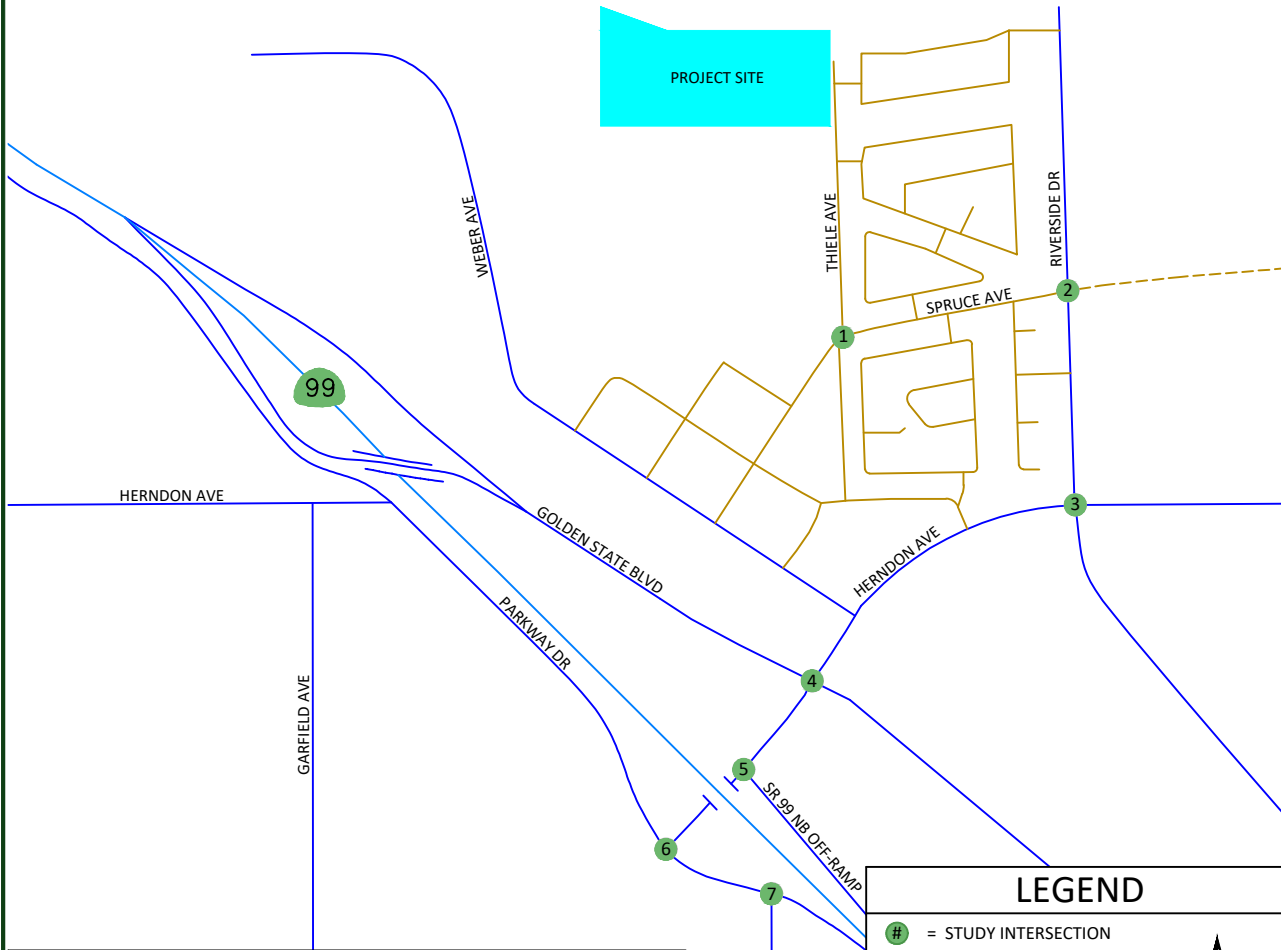


Not To Scale

Tract 6195 - City of Fresno Project Only Trips

Figure 4

<p>1. Thiele Ave & Spruce Ave</p>	<p>2. Riverside Dr & Spruce Ave</p>	<p>3. Riverside Dr & Herndon Ave</p>	<p>4. Golden State Blvd & Herndon Ave</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p>	<p>6. Parkway Dr & Herndon Ave</p>	<p>7. Grantland Ave & Parkway Dr</p>	



LEGEND

- = STUDY INTERSECTION
- - - = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

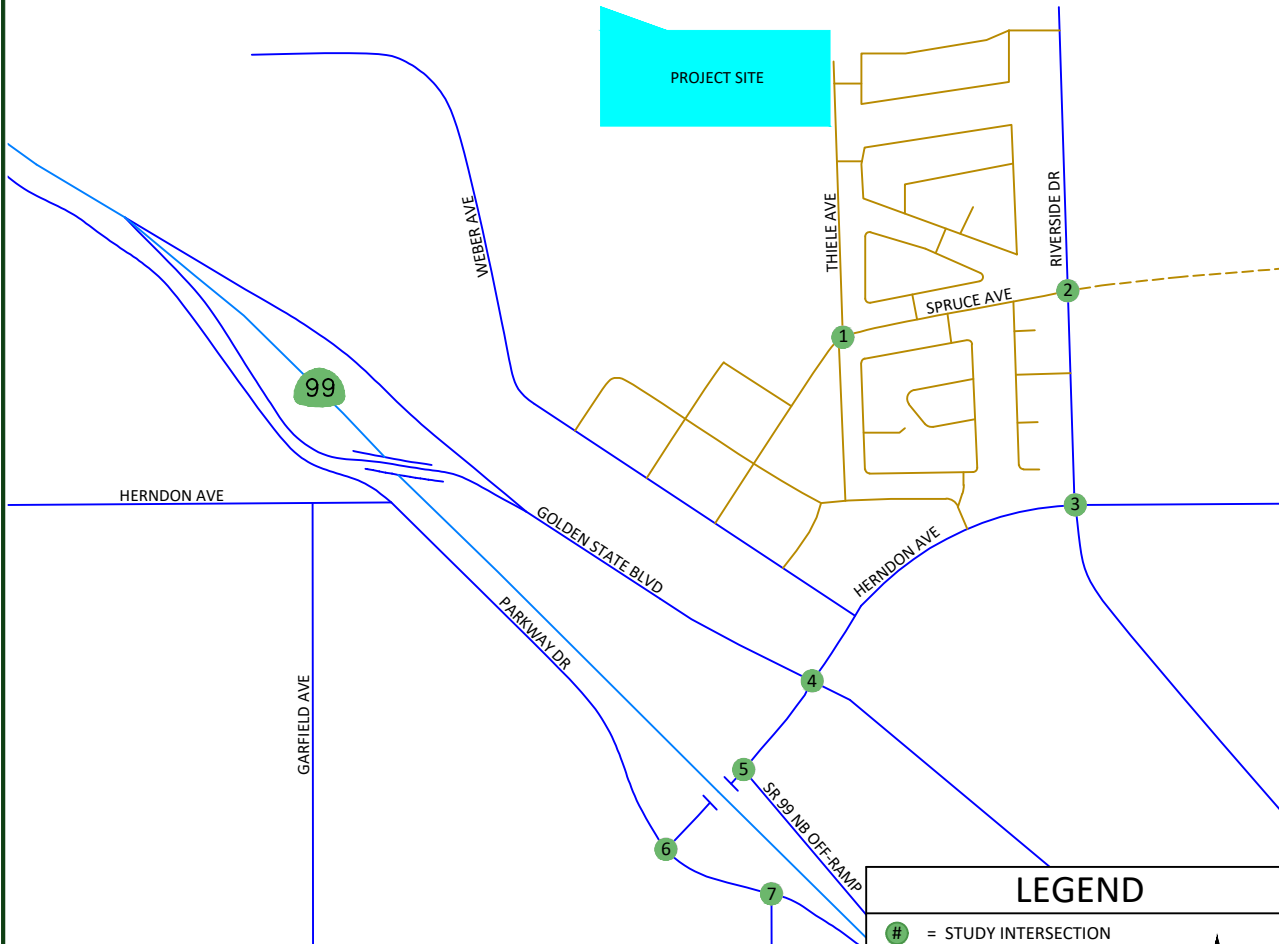
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Tract 6195 - City of Fresno Existing plus Project - Traffic Volumes, Geometrics and Controls

Figure 5

<p>1. Thiele Ave & Spruce Ave</p> <p>Thiele Ave Elgin Ave Spruce Ave</p> <p>AM Peak: 8(3), 26(14), 60(35), 15(50), 12(22), 5(2) PM Peak: 7(5), 23(24), 0(1), 5(14), 5(6)</p>	<p>2. Riverside Dr & Spruce Ave</p> <p>Riverside Dr Spruce Ave</p> <p>AM Peak: 1(2), 47(69) PM Peak: 4(5), 122(88), 39(104), 44(74)</p>	<p>3. Riverside Dr & Herndon Ave</p> <p>Riverside Dr Herndon Ave</p> <p>AM Peak: 39(28), 48(51), 88(85), 53(83), 1321(1124), 61(214), 1(0) PM Peak: 78(166), 26(55), 1113(1265), 109(234), 0(10), 242(330), 23(47), 64(205)</p>	<p>4. Golden State Blvd & Herndon Ave</p> <p>Golden State Blvd Herndon Ave</p> <p>AM Peak: 134(145), 69(111), 464(600), 737(542), 975(1109), 29(51), 0(3) PM Peak: 0(5), 196(87), 870(1153), 65(45), 65(51), 120(66), 38(86)</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p> <p>Herndon Ave SR 99 NB Rmp</p> <p>AM Peak: 1174(1310) PM Peak: 714(604), 54(116), 417(686)</p>	<p>6. Parkway Dr & Herndon Ave</p> <p>Parkway Dr Herndon Ave</p> <p>AM Peak: 53(68), 290(257), 286(339), 942(1087) PM Peak: 5(9), 428(347)</p>	<p>7. Grantland Ave & Parkway Dr</p> <p>Parkway Dr Grantland Ave</p> <p>AM Peak: 720(615), 270(547) PM Peak: 429(343), 237(104)</p>	



LEGEND

- = STUDY INTERSECTION
- - - = FUTURE ROADWAY
- ⬮ = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

Not To Scale

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Near Term plus Project Traffic Conditions

Description of Near Term Projects

Near Term Projects consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. The City of Fresno, County of Fresno and Caltrans staff were consulted throughout the preparation of this TIA regarding Near Term Projects that could potentially impact the study intersections. JLB staff conducted a reconnaissance of the surrounding area to confirm the Near Term Projects. Therefore, the Near Term Projects listed in Table VII were within the proximity of the Project site.

Table VII: Near Term Projects' Trip Generation

<i>Near Term Project ID</i>	<i>Near Term Project Name</i>	<i>Daily Trips</i>	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
A	TT 5479 ¹	1152	90	121
B	TT 5493 (portion of) ¹	963	75	101
C	TT 5537 ¹	378	30	40
D	TT 5586 ¹	699	55	73
E	TT 5756 ¹	963	75	101
F	TT 5766 ¹	170	13	18
G	TT 6162 ¹	765	60	80
H	TT 6199 ²	1104	87	116
I	TT 6215 ²	302	24	32
J	TT 6234 ²	4503	353	472
K	TT 6258 ²	3021	237	317
L	TT 6308 ²	1973	155	207
M	Bella Vista Professional Offices ²	1,570	104	155
N	Brighten Academy Preschool ¹	98	35	9
O	Clinton Avenue (Residential) ²	1,982	155	208
P	Dakota and Grantland (Residential) ²	2,304	163	209
Q	El Paseo Commercial Development (portion of) ¹	546	36	50
R	The Golden West Plaza (Clinton and Blythe Commercial) ²	1,815	93	153
S	Herndon South Commercial Development ²	3,117	198	272
T	Herndon-Van Buren Gas Station ²	1,953	122	162
U	Jack-in-the-Box ³	1,284	118	84
V	Johnny Quik Food Store ¹	2,833	202	215
W	Koligian High School ¹	4,296	1104	796
X	Parc West ²	3,597	282	377
Y	Riverside Apartments ²	1,214	92	117
Z	Shaw-99 Mixed-Use Development (portion of) ²	3,240	294	312
AA	Westbridge Apartments ²	1,198	76	93
Total Near Term Project Trips⁵		47,039	4,328	4,890

Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information
 2 = Trip Generation based on JLB Traffic Engineering, Inc. Traffic Impact Analysis Report
 3 = Trip Generation based on Precision Civil Engineering Traffic Impact Analysis Report



The trip generation listed in Table VII is that which is anticipated to be added to the streets and highways by Near Term Projects between the time of the preparation of this Report and five (5) years after buildout of the proposed Project. As shown in Table VII, the total trip generation for the Near Term Projects is 47,039 weekday daily trips, 4,328 weekday AM peak hour trips and 4,890 weekday PM peak hour trips. Figure 6 illustrates the location of the Near Term Projects and their combined trip assignment to the study intersections under the Near Term plus Project Traffic Conditions scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Near Term plus Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, no unsignalized study intersection is projected to satisfy Warrant 3. Based on the traffic signal warrants, operational analysis and engineering judgment, it is not recommended that the City consider implementing traffic signal controls at any of the unsignalized study intersections especially since these are projected to operate at an acceptable LOS during both peak periods under stop sign control.

Results of Near Term plus Project Level of Service Analysis

The Near Term plus Project Traffic Conditions scenario assumes the existing roadway geometrics and traffic controls will remain in place. Figure 7 illustrates the Near Term plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Near Term plus Project Traffic Conditions scenario are provided in Appendix H. Table VIII presents a summary of the Near Term plus Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Table VIII: Near Term plus Project Intersection LOS Results

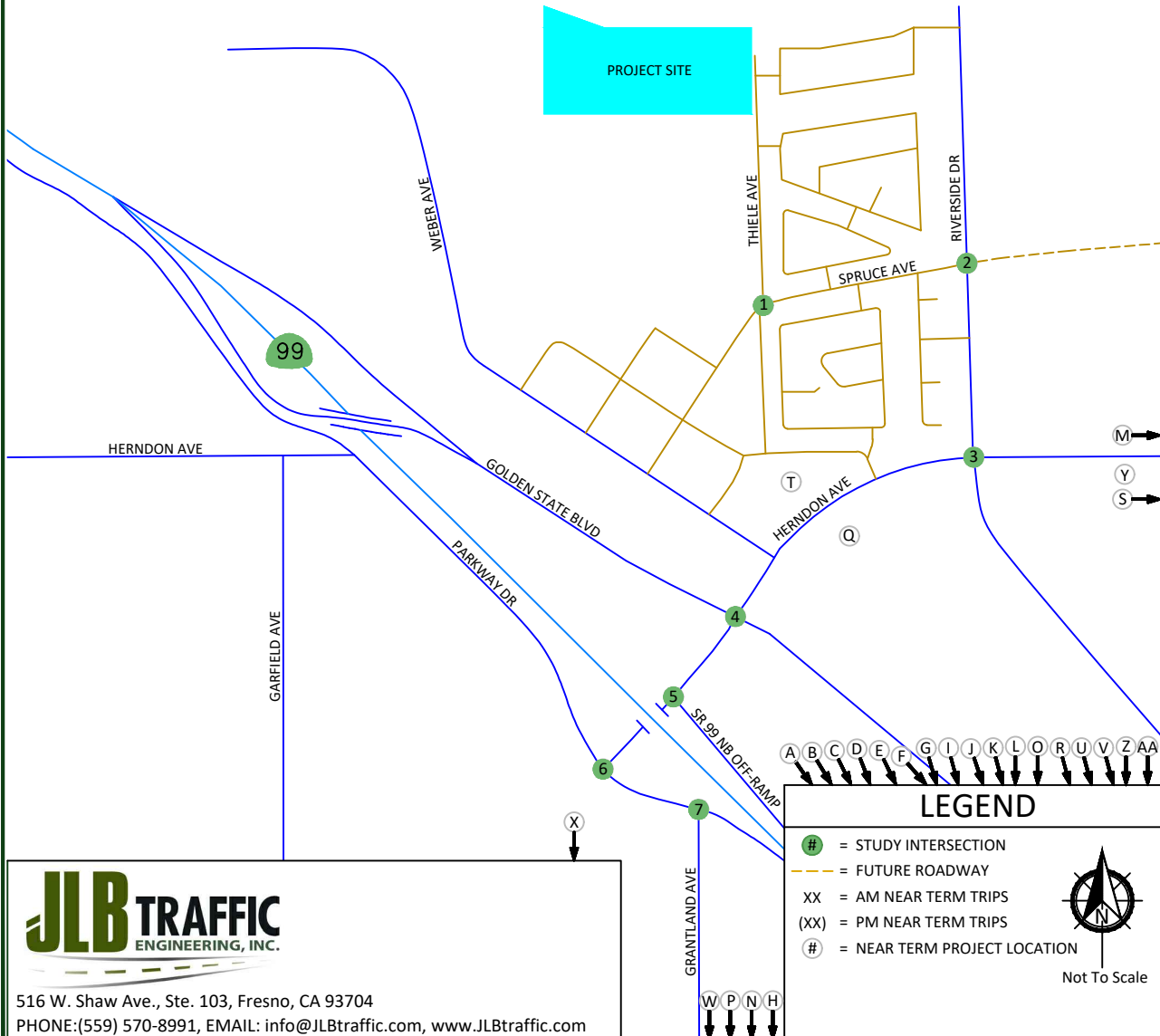
ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Thiele Avenue / Spruce Avenue	Two-Way Stop	10.3	B	9.7	A
2	Riverside Drive / Spruce Avenue	All-Way Stop	8.1	A	8.6	A
3	Riverside Drive / Herndon Avenue	Traffic Signal	36.7	D	50.8	D
4	Golden State Boulevard / Herndon Avenue	Traffic Signal	36.5	D	32.2	C
5	SR 99 NB Off-Ramp / Herndon Avenue	Traffic Signal	21.4	C	29.9	C
6	Parkway Drive / Herndon Avenue	Traffic Signal	42.1	D	44.1	D
7	Grantland Avenue / Parkway Drive	Traffic Signal	0.4	A	0.2	A

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
 LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Tract 6195 - City of Fresno Near Term Projects' Trip Assignment

Figure 6

<p>1. Thiele Ave & Spruce Ave</p>	<p>2. Riverside Dr & Spruce Ave</p>	<p>3. Riverside Dr & Herndon Ave</p>	<p>4. Golden State Blvd & Herndon Ave</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p>	<p>6. Parkway Dr & Herndon Ave</p>	<p>7. Grantland Ave & Parkway Dr</p>	

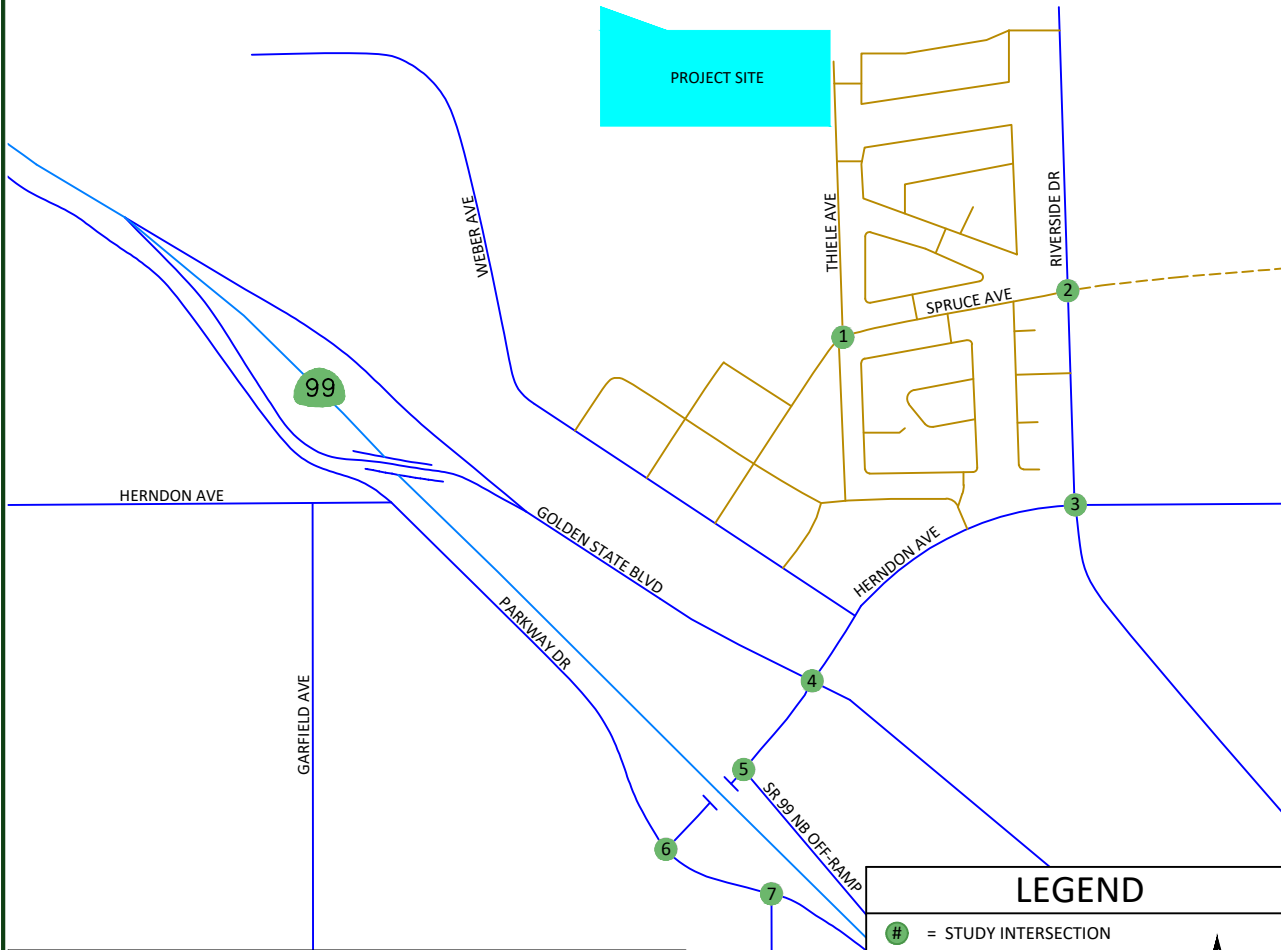


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Tract 6195 - City of Fresno Near Term plus Project - Traffic Volumes, Geometrics and Controls

Figure 7

<p>1. Thiele Ave & Spruce Ave</p> <p>Thiele Ave Elgin Ave Spruce Ave</p> <p>AM Peak Hour Trips: 8(3), 26(14), 60(35), 15(50), 13(22), 5(2) PM Peak Hour Trips: 7(5), 23(25), 0(1), 5(14), 5(6)</p>	<p>2. Riverside Dr & Spruce Ave</p> <p>Riverside Dr Spruce Ave</p> <p>AM Peak Hour Trips: 1(2), 48(70) PM Peak Hour Trips: 4(6), 122(91), 41(105), 44(76)</p>	<p>3. Riverside Dr & Herndon Ave</p> <p>Riverside Dr Herndon Ave</p> <p>AM Peak Hour Trips: 39(37), 49(55), 89(85), 53(84), 1387(1150), 72(249), 1(0) PM Peak Hour Trips: 112(211), 31(55), 1182(1341), 143(270), 0(10), 305(357), 25(49), 94(224)</p>	<p>4. Golden State Blvd & Herndon Ave</p> <p>Golden State Blvd Herndon Ave</p> <p>AM Peak Hour Trips: 134(145), 69(111), 477(608), 737(548), 1101(1182), 30(54), 15(21) PM Peak Hour Trips: 0(5), 196(87), 992(1267), 67(45), 65(53), 120(66), 41(91)</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p> <p>Herndon Ave SR 99 NB Ramp</p> <p>AM Peak Hour Trips: 1300(1385) PM Peak Hour Trips: 824(695), 54(116), 431(709)</p>	<p>6. Parkway Dr & Herndon Ave</p> <p>Parkway Dr Herndon Ave</p> <p>AM Peak Hour Trips: 53(68), 291(258), 286(340), 1068(1161) PM Peak Hour Trips: 5(9), 535(437)</p>	<p>7. Grantland Ave & Parkway Dr</p> <p>Parkway Dr Grantland Ave</p> <p>AM Peak Hour Trips: 724(619), 392(616), 538(433), 238(104) PM Peak Hour Trips: SR 99 SB Ramp</p>	



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Not To Scale

Cumulative Year 2042 No Project Traffic Conditions

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Cumulative Year 2042 No Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, no unsignalized study intersection is projected to satisfy Warrant 3. Based on the traffic signal warrants, operational analysis and engineering judgement, it is not recommended that the City consider implementing traffic signal controls at any of the unsignalized study intersections especially since these are projected to operate at an acceptable LOS during both peak periods under stop sign control.

Results of Cumulative Year 2042 No Project Level of Service Analysis

The Cumulative Year 2042 No Project Traffic Conditions scenario, the existing roadway geometrics and traffic controls will remain in place. Figure 8 illustrates the Cumulative Year 2042 No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2042 No Project Traffic Conditions scenario are provided in Appendix I. Table IX presents a summary of the Cumulative Year 2042 No Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods. However, queuing issues were identified at the eastbound left-turn movement at the intersection of Riverside Drive and Herndon Avenue. To improve issues with queuing at this intersection, it is recommended that the following improvement be considered for implementation.

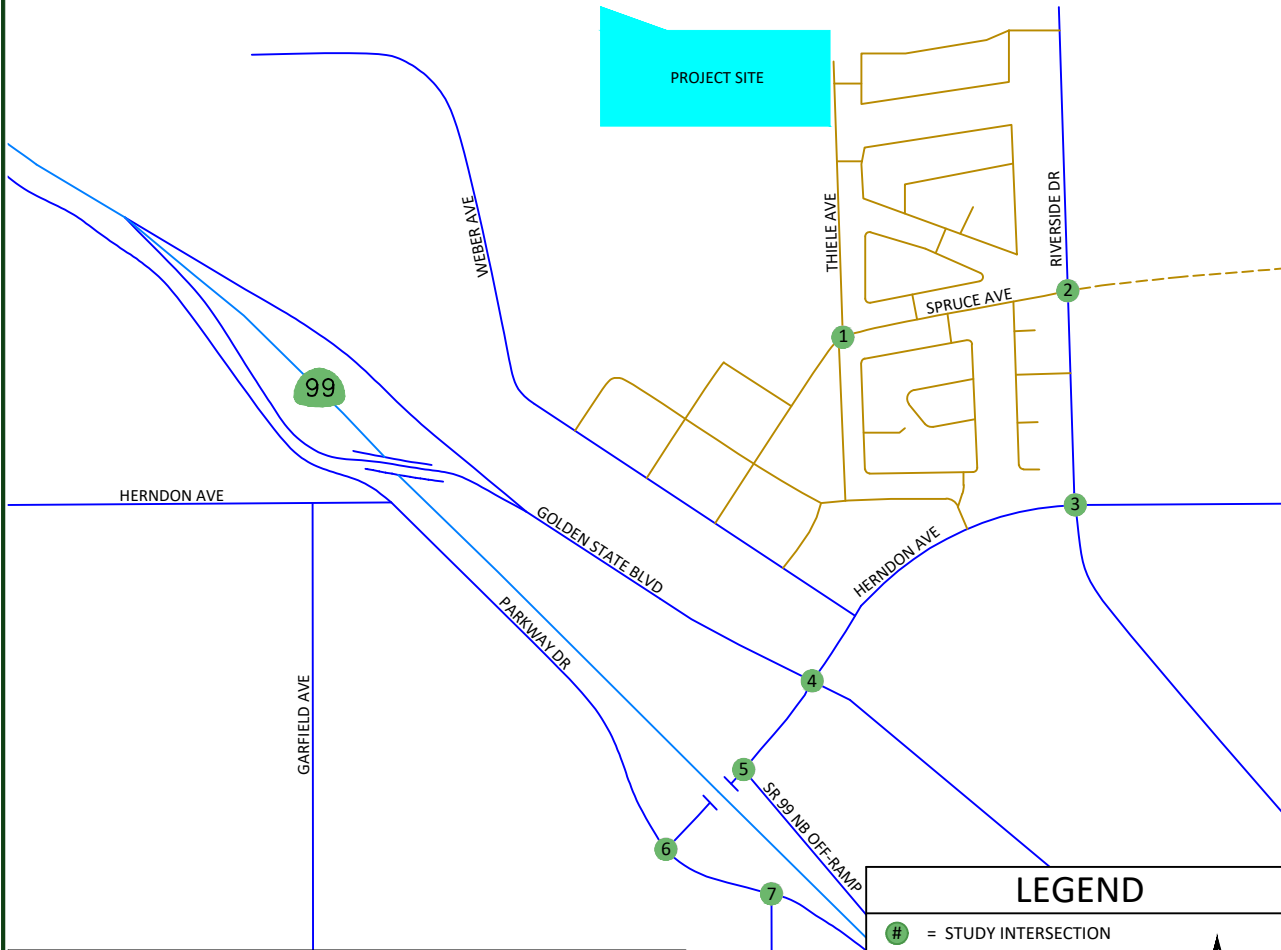
- Riverside Drive / Herndon Avenue
 - Add a second eastbound left-turn lane;
 - Add a second receiving lane on Riverside Drive north of Herndon Avenue; and
 - Modify the traffic signal to accommodate the added lanes.

Table IX: Cumulative Year 2042 No Project Intersection LOS Results

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Thiele Avenue / Spruce Avenue	Two-Way Stop	9.3	A	9.3	A
2	Riverside Drive / Spruce Avenue	All-Way Stop	8.1	A	8.7	A
3	Riverside Drive / Herndon Avenue	Traffic Signal	37.9	D	50.9	D
		Traffic Signal (Improved)	31.0	C	36.6	D
4	Golden State Boulevard / Herndon Avenue	Traffic Signal	42.5	D	29.6	C
5	SR 99 NB Off-Ramp / Herndon Avenue	Traffic Signal	22.6	C	25.2	C
6	Parkway Drive / Herndon Avenue	Traffic Signal	48.9	D	20.3	C
7	Grantland Avenue / Parkway Drive	Traffic Signal	0.4	A	0.4	A

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
 LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street

<p>1. Thiele Ave & Spruce Ave</p> <p>Thiele Ave Spruce Ave Elgin Ave</p> <p>8(3) 12(5) 24(12) 4(1) 16(22) 6(2) 7(5) 23(25) 0(1) 0(8) 7(32)</p>	<p>2. Riverside Dr & Spruce Ave</p> <p>Riverside Dr Spruce Ave</p> <p>2(2) 61(70) 2(12) 5(13) 22(58) 5(13) 4(6) 5(3) 86(68) 30(56) 51(95) 62(48)</p>	<p>3. Riverside Dr & Herndon Ave</p> <p>Riverside Dr Herndon Ave</p> <p>37(93) 35(44) 101(74) 49(67) 1387(1150) 72(249) 1(0) 112(211) 99(34) 1368(1341) 152(270) 0(10) 305(957) 21(91) 94(224)</p>	<p>4. Golden State Blvd & Herndon Ave</p> <p>Golden State Blvd Herndon Ave</p> <p>203(145) 105(111) 704(608) 737(559) 1087(1172) 30(54) 15(21) 0(5) 198(87) 987(1245) 67(45) 65(53) 120(66) 41(88)</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p> <p>Herndon Ave SR 99 NB Ramp</p> <p>1286(1375) 846(690) 54(116) 425(692)</p>	<p>6. Parkway Dr & Herndon Ave</p> <p>Parkway Dr Herndon Ave</p> <p>53(68) 343(262) 302(348) 1054(1151) 5(9) 530(432)</p>	<p>7. Grantland Ave & Parkway Dr</p> <p>Parkway Dr Grantland Ave</p> <p>742(615) 386(614) 537(428) 238(104)</p>	



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Cumulative Year 2042 plus Project Traffic Conditions

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Cumulative Year 2042 plus Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, no unsignalized study intersection is projected to satisfy Warrant 3. Based on the traffic signal warrants, operational analysis and engineering judgement, it is not recommended that the City consider implementing traffic signal controls at any of the unsignalized study intersections especially since these are projected to operate at an acceptable LOS during both peak periods under stop sign control.

Results of Cumulative Year 2042 plus Project Level of Service Analysis

The Cumulative Year 2042 plus Project Traffic Conditions scenario the existing roadway geometrics and traffic controls will remain in place. Figure 9 illustrates the Cumulative Year 2042 plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2042 plus Project Traffic Conditions scenario are provided in Appendix J. Table X presents a summary of the Cumulative Year 2042 plus Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods. However, queuing issues were identified at the eastbound left-turn movement at the intersection of Riverside Drive and Herndon Avenue. To improve issues with queuing at this intersection, it is recommended that the following improvement be considered for implementation.

- Riverside Drive / Herndon Avenue
 - Add a second eastbound left-turn lane;
 - Add a second receiving lane on Riverside Drive north of Herndon Avenue; and
 - Modify the traffic signal to accommodate the added lanes.

Table X: Cumulative Year 2042 plus Project Intersection LOS Results

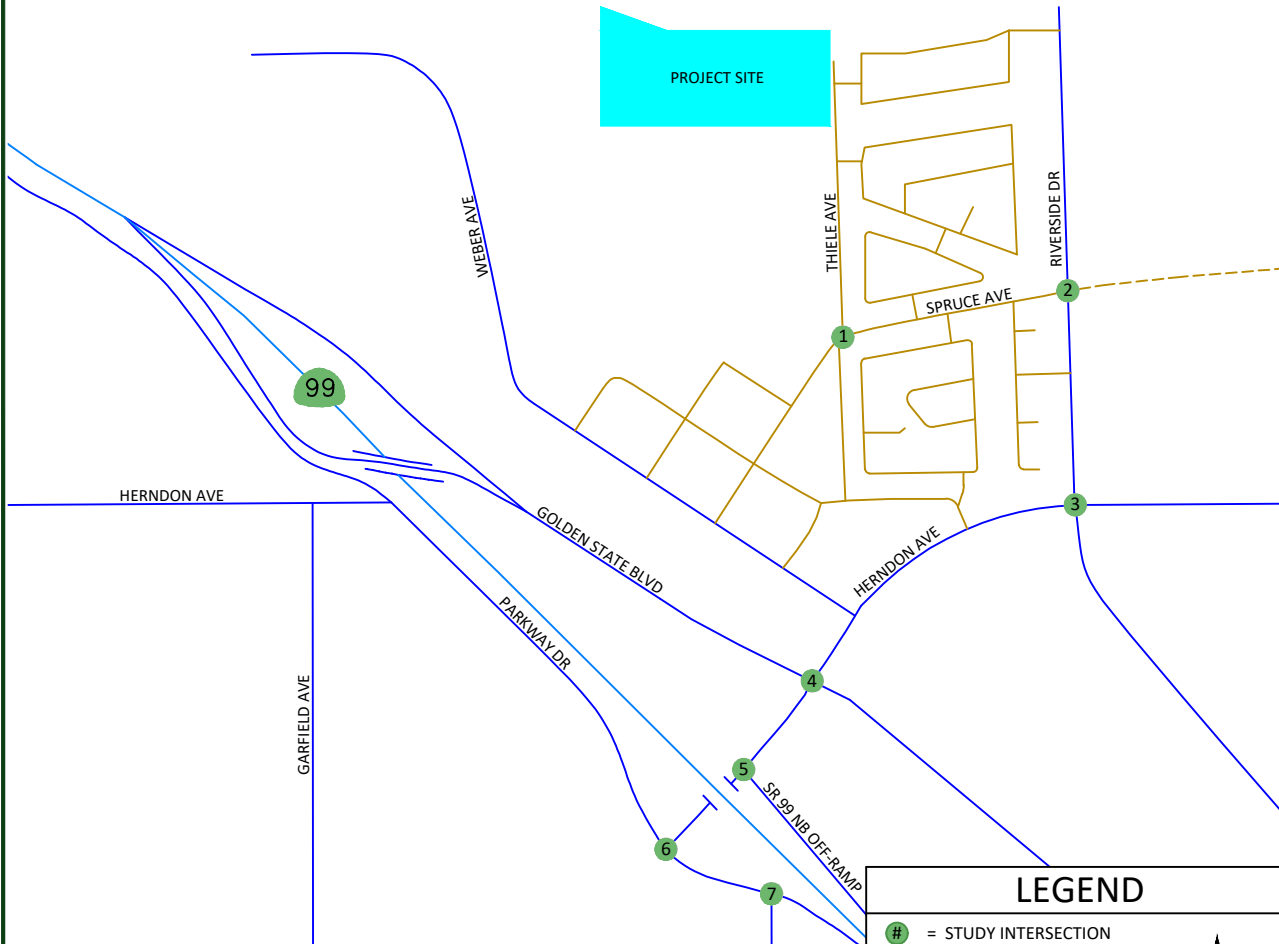
ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Thiele Avenue / Spruce Avenue	Two-Way Stop	9.8	A	9.8	A
2	Riverside Drive / Spruce Avenue	All-Way Stop	8.3	A	9.0	A
3	Riverside Drive / Herndon Avenue	Traffic Signal	38.5	D	48.9	D
		Traffic Signal (Improved)	31.5	C	38.5	D
4	Golden State Boulevard / Herndon Avenue	Traffic Signal	43.7	D	31.4	C
5	SR 99 NB Off-Ramp / Herndon Avenue	Traffic Signal	23.3	C	30.8	C
6	Parkway Drive / Herndon Avenue	Traffic Signal	49.9	D	46.1	D
7	Grantland Avenue / Parkway Drive	Traffic Signal	0.4	A	0.2	A

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
 LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Tract 6195 - City of Fresno Cumulative Year 2042 plus Project - Traffic Volumes, Geometrics and Controls

Figure 9

<p>1. Thiele Ave & Spruce Ave</p> <p>Thiele Ave 8(3) 26(15) 60(35) 15(50) 16(22) 6(2) Elgin Ave 7(5) 23(25) 0(1) Spruce Ave 5(14) 7(32)</p>	<p>2. Riverside Dr & Spruce Ave</p> <p>Riverside Dr 2(2) 61(70) 2(12) 5(13) 22(58) 5(13) Spruce Ave 4(6) 5(3) 122(91) 41(105) 51(95) 62(48)</p>	<p>3. Riverside Dr & Herndon Ave</p> <p>Riverside Dr 39(94) 55(55) 115(85) 53(84) 1387(1150) 72(249) 1(0) Herndon Ave 112(211) 102(55) 1368(1341) 152(270) 0(10) 305(957) 25(102) 94(224)</p>	<p>4. Golden State Blvd & Herndon Ave</p> <p>Golden State Blvd 203(145) 105(111) 704(608) 737(559) 1101(1182) 30(54) 15(21) Herndon Ave 0(5) 198(87) 994(1267) 67(45) 65(53) 120(66) 42(91)</p>
<p>5. SR 99 NB Off-Ramp & Herndon Ave</p> <p>Herndon Ave 1300(1385) SR 99 NB Ramp 847(695) 54(116) 431(709)</p>	<p>6. Parkway Dr & Herndon Ave</p> <p>Parkway Dr 53(68) 343(262) 302(348) 1068(1161) Herndon Ave 5(9) 535(437)</p>	<p>7. Grantland Ave & Parkway Dr</p> <p>Parkway Dr 750(623) 392(616) Grantland Ave 538(433) 238(104)</p>	



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Queuing Analysis

Table XI provides a queue length summary for left-turn and right-turn lanes at the study intersections under all study scenarios. The queuing analyses for the study intersections are contained in the LOS worksheets for the respective scenarios. Appendix D contains the methodologies used to evaluate these intersections. Queuing analyses were completed using SimTraffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the Synchro manual, “the 50th percentile maximum queue is the maximum back of queue on a typical cycle and the 95th percentile queue is the maximum back of queue with 95th percentile volumes” (*Synchro Studio 10 User Guide* 2017). The queues shown in Table XI are the 95th percentile queue lengths for the respective lane movements.

The *California Highway Design Manual* (CA HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. According to the CA HDM, tapers for right-turn lanes are “usually unnecessary since main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift were needed, the approach taper would use the same formula as for a left-turn lane” (Caltrans 2019). Therefore, a bay taper length pursuant to the CA HDM would need to be added, as necessary, to the recommended storage lengths presented in Table XI.

The storage capacity for the Cumulative Year 2042 plus Project Traffic Conditions shall be based on the SimTraffic output files and engineering judgment. The values in bold presented in Table XI are the projected queue lengths that will likely need to be accommodated by the Cumulative Year 2042 plus Project Traffic Conditions scenario. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue. Due to impacts to queuing it is recommended that the intersection of Riverside Drive and Herndon Avenue open up the second eastbound left-turn lane.

Table XI: Queuing Analysis

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2042 No Project		Cumulative Year 2042 plus Project	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Thiele Avenue / Spruce Avenue	EB LTR	>500	0	0	0	0	0	0	8	9	0	10
		WB LTR	>500	0	0	13	0	12	0	9	0	0	7
		NB LTR	>500	17	20	24	27	22	29	16	40	25	30
		SB LTR	>500	45	27	45	34	45	49	41	22	45	42
2	Riverside Drive / Spruce Avenue	EB L	80	17	16	12	20	13	20	15	12	9	25
		EB R	>500	42	47	53	42	39	52	*	*	*	*
		EB TR	>500	*	*	*	*	*	*	42	49	50	47
		WB L	80	*	*	*	*	*	*	16	31	18	30
		WB TR	>500	*	*	*	*	*	*	41	48	43	45
		NB L	150	46	44	47	49	46	51	46	68	34	39
		NB T	>500	44	48	47	52	50	47	*	*	*	*
		NB TR	>500	*	*	*	*	*	*	51	50	51	48
		SB L	80	*	*	*	*	*	*	8	29	16	35
3	Riverside Drive / Herndon Avenue	EB L	245	132	522	170	409	223	500	301	503	510	496
		EB T	>500	353	1145	388	571	354	704	304	1049	946	1004
		EB T	>500	379	853	398	549	370	680	313	867	954	901
		EB R	>500	70	93	83	91	51	118	52	126	213	222
		WB LL	245	97	283	163	346	176	299	142	317	236	355
		WB T	>500	590	877	621	691	626	588	599	1262	1032	1121
		WB TR	>500	629	890	648	715	659	636	632	1286	1059	1133
		NB LL	240	149	348	157	325	384	391	313	260	220	329
		NB T	>500	38	226	53	123	488	547	98	97	34	133
		NB R	>500	49	141	55	247	88	188	94	146	53	121
		SB L	260	86	85	117	177	126	131	121	106	120	88
		SB T	>500	33	36	23	45	38	62	32	45	37	49
SB T	>500	35	53	44	48	67	71	36	62	37	64		
SB R	100	42	49	43	43	49	56	58	99	52	85		

Note: * = Does not exist or is not projected to exist

Table XI: Queuing Analysis (continued)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2042 No Project		Cumulative Year 2042 plus Project	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
4	Golden State Blvd / Herndon Avenue	EB LL	260	151	63	111	135	192	121	237	109	130	72
		EB T	>500	223	264	203	319	316	372	347	362	301	288
		EB T	>500	229	282	213	317	293	391	336	330	298	308
		EB T	360	172	226	162	299	220	362	298	258	244	257
		EB R	360	42	33	39	48	48	35	38	41	47	51
		WB L	160	165	216	99	85	67	158	158	196	198	173
		WB T	>500	340	950	433	290	462	507	429	512	548	638
		WB T	>500	404	964	464	397	492	616	469	563	602	690
		WB R	>500	329	649	320	128	366	116	366	121	327	133
		NB LL	160	59	51	70	65	71	56	86	56	48	42
		NB T	>500	76	59	72	68	86	62	77	44	86	53
		NB T	>500	60	32	72	42	68	48	65	46	68	44
		NB R	160	25	52	32	64	40	77	37	66	35	60
		SB LL	275	188	332	215	364	322	402	371	248	379	235
		SB T	>500	67	187	75	317	85	524	1064	97	609	72
SB T	>500	29	23	16	195	22	237	652	12	324	24		
SB R	160	83	84	89	129	102	153	162	83	101	96		
5	SR 99 NB Off-Ramp / Herndon Avenue	EB T	>500	156	195	151	316	289	325	281	216	170	232
		WB T	>500	150	167	144	109	166	81	112	172	128	151
		WB T	>500	163	189	160	156	156	143	144	185	154	184
		NB L	290	74	114	69	135	71	164	53	125	71	112
		NB R	>500	97	120	96	173	156	176	145	138	123	159
		NB R	>500	90	115	73	149	118	178	116	129	92	156
6	Parkway Drive / Herndon Avenue	WB LL	>500	267	158	304	253	285	280	258	168	235	168
		WB R	180	104	109	179	184	189	158	155	112	122	124
		NB T	>500	21	25	19	31	174	358	337	25	22	104
		NB R	140	157	91	110	184	291	308	286	115	169	134
		SB L	125	194	188	184	225	234	224	226	189	201	179
		SB T	>500	127	145	101	345	372	444	554	97	151	78
7	Grantland Avenue / Parkway Drive	EB T	>500	299	115	318	242	511	203	590	212	311	170
		EB T	>500	246	22	297	118	515	110	598	145	248	72
		EB R	230	100	0	99	0	241	0	358	0	102	0
		NB L	185	239	206	258	243	291	310	304	225	296	262
		NB R	>500	144	49	243	108	232	455	364	89	256	130

Note: * = Does not exist or is not projected to exist

Conclusions and Recommendations

Conclusions and recommendations regarding the proposed Project are presented below.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent five-year period. Based on a review of the collision reports, a total of fifty (50) collisions were reported within the influence zone of the study intersections. In the year 2018, the intersection of SR-99 Northbound Off-Ramp and Herndon Avenue experienced five (5) collisions. Of these collisions, three (3) were considered correctable by a change in traffic control to a roundabout. In the year 2020, the intersection of Parkway Drive and Herndon Avenue experienced five (5) collisions. Of these collisions, one (1) was considered correctable by a change in traffic control to a roundabout. Based on the number of correctable collisions, JLB does not recommend changes to the existing traffic controls at any of these intersections.
- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project Traffic Conditions

- The Project proposes to have two (2) access points along the west side of Thiele Avenue approximately 1,550 feet and 1,340 feet north of Spruce Avenue. Both of these access points are proposed as full access.
- JLB analyzed the location of the existing and proposed roadways and access points. This review revealed that all access points are located at points that minimize traffic operational impacts to existing and future roadway networks.
- At buildout, the proposed Project is estimated to generate a maximum of 840 daily trips, 66 AM peak hour trips and 88 PM peak hour trips.
- It is recommended that the Project implement a Class I Bikeway along the southside of the San Joaquin River from the western boundary of the Project to Thiele Avenue spanning approximately 1,200 feet.
- It is recommended that the Project implement ADA compliant pedestrian sidewalks along internal streets connecting all uses to external sidewalks and along its frontage to Thiele Avenue.
- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Near Term plus Project Traffic Conditions

- The total trip generation for the Near Term Projects is 47,039 weekday daily trips, 4,328 weekday AM peak hour trips and 4,890 weekday PM peak hour trips.
- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Cumulative Year 2042 No Project Traffic Conditions

- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods. However, queuing issues were identified at the eastbound left-turn movement at the intersection of Riverside Drive and Herndon Avenue. To improve queuing at this intersection, it is recommended that the following improvements be considered for implementation.
 - Riverside Drive / Herndon Avenue
 - Add a second eastbound left-turn lane;
 - Add a second receiving lane on Riverside Drive north of Herndon Avenue; and
 - Modify the traffic signal to accommodate the added lanes.

Cumulative Year 2042 plus Project Traffic Conditions

- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods. However, queuing issues were identified at the eastbound left-turn movement at the intersection of Riverside Drive and Herndon Avenue. To improve queuing at this intersection, it is recommended that the following improvements be considered for implementation.
 - Riverside Drive / Herndon Avenue
 - Add a second eastbound left-turn lane;
 - Add a second receiving lane on Riverside Drive north of Herndon Avenue; and
 - Modify the traffic signal to accommodate the added lanes.

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References

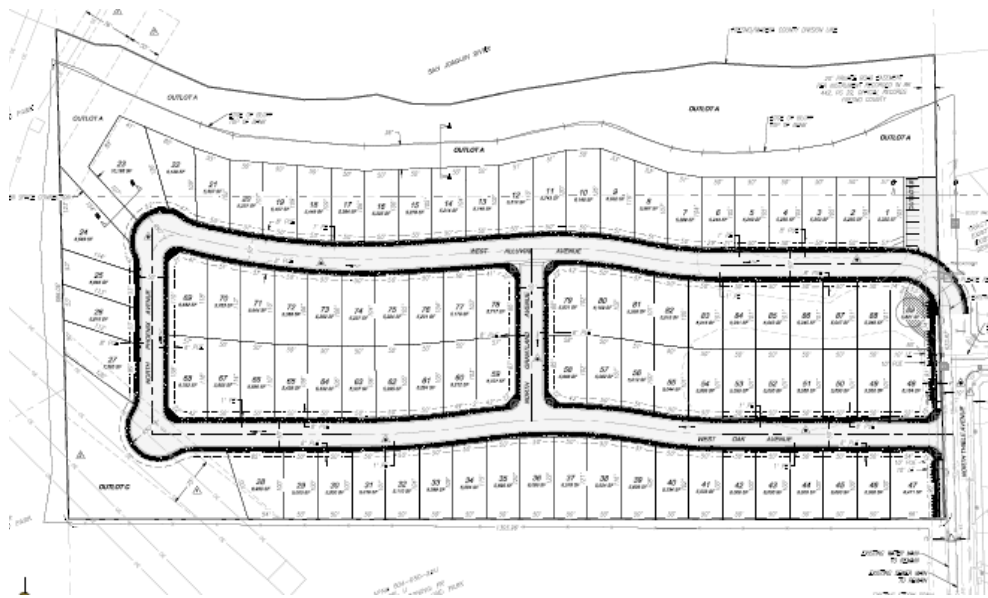
- Caltrans. 2002. "Guide for The Preparation of Traffic Impact Studies". State of California.
- Caltrans. 2019. "Highway Design Manual". Sacramento: State of California.
- Caltrans. 2020. "California Manual on Uniform Traffic Control Devices". Sacramento: State of California.
- City of Fresno. 2009. "Traffic Impact Study Guidelines". Fresno: City of Fresno.
- City of Fresno. 2014. "Fresno General Plan". Fresno: City of Fresno.
- City of Fresno. 2016. "City of Fresno Active Transportation Plan". Fresno: City of Fresno.
- City of Fresno. 2020. "CEQA Guidelines for Vehicle Miles Traveled Thresholds". Fresno: City of Fresno.
- County of Fresno. 2014. "Guidelines for The Preparation of Traffic Impact Studies Within the County of Fresno". Fresno: County of Fresno.
- "Department of Transportation | FAX". 2021. Fresno.Gov. <https://www.fresno.gov/transportation/fax/>.
- Fresno County. 2000. "Fresno County General Plan". Fresno: Fresno County.
- Institute of Transportation Engineers. 2017. "Trip Generation Manual". Washington: Institute of Transportation Engineers.
- Synchro Studio 10 User Guide*. 2017. Sugar Land: Trafficware, LLC.
- Transportation Research Board. 2016. "Highway Capacity Manual". Washington: The National Academy of Sciences.

Appendix F

Air Quality and Greenhouse Gas Impact Analysis

AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

TAPESTRY III CITY OF FRESNO, CALIFORNIA



LSA

July 2021

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AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

TAPESTRY III CITY OF FRESNO, CALIFORNIA

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Project No. CNY2101



July 2021

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LIST OF ABBREVIATIONS AND ACRONYMS

°C	Celsius
°F	degrees Fahrenheit
AAQS	ambient air quality standards
AB	Assembly Bill
APN	Assessor's Parcel Numbers
APS	Alternative Planning Strategy
AQMP	Air Quality Management Plan
BPS	Best Performance Standards
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFD	Community Facilities District
CH ₄	methane
City	City of Fresno
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
GAMAQI	<i>Guidance for Assessing and Mitigating Air Quality Impacts</i>
GHG	greenhouse gas
GWP	Global Warming Potential
HFCs	hydrofluorocarbons
hr	Hour
IPCC	Intergovernmental Panel on Climate Change
kWh	kilowatt hours
LOS	levels of service

MG	million gallons
mg/m ³	milligrams per cubic meter
MMT	million metric tons
MPOs	Metropolitan Planning Organizations
MT CO ₂ e	metric tons carbon dioxide equivalent
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standard
ND	no data available
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
ozone	O ₃
Pb	lead
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric
PI/BP/UGM	Public Institutional/Bluff Protection/Urban Growth Management
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
PR/BP/UGM	Parks and Recreation/Bluff Protection/Urban Growth Management
project	Tapestry III Project
ROG	reactive organic gases
RS-5/BL/UGM	Residential Single-Family, Medium Density/Bluff Protection/Urban Growth Management
RTP	Regional Transportation Plan
Rule 9510	SJVAPCD adopted the Indirect Source Rule
SB	Senate Bill
SCS	Sustainable Community Strategies
SF ₆	sulfur hexafluoride
SJVAB	San Joaquin Valley Air Basin

SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO ₂	sulfur dioxide
SO _x	sulfur oxides
TACs	toxic air contaminants
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
µg/m ³	micrograms per cubic meter

INTRODUCTION

This Air Quality and Greenhouse Gas Impact Analysis has been prepared to evaluate the potential air quality and greenhouse gas (GHG) impacts for the proposed Tapestry III Project (project) in the City of Fresno (City), California. This report provides a project-specific air quality and GHG by examining the impacts of the proposed uses on adjacent sensitive uses. Guidelines identified by the San Joaquin Valley Air Pollution Control District (SJVAPCD) in its *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) were implemented in this Air Quality and GHG Impact Analysis (SJVAPCD 2015a).

PROJECT DESCRIPTION

The vacant 17.58-acre project site is located on the west side of the northern terminus of North Thiele Avenue, west of the intersection of West Oak Avenue and North Thiele Avenue (Assessor's Parcel Numbers [APN] 504-050-02 and 504-130-12). The project site is bound to the north by the San Joaquin River, to the east by single-family residences, to the south by vacant land, and to the west is a Pacific Gas & Electric (PG&E) substation and the Fresno County Horse Park. Figure 1 shows the site's regional and local context. Figure 2 depicts an aerial photograph of the project site.

The proposed project would subdivide the project site in an 89-lot conventional single-family residential development at a density of approximately 5.05 dwelling units/acre. Out lots would be dedicated to the City for open space, trails, parking, flood control, and emergency vehicle access purposes. The proposed project would amend the General Plan and Bullard Community Plan Land Use Map to change the project site from Open Space, Regional Park (14.00 acres), Open Space Multi-Use (1.30 acres), and Public Facility, PG&E Substation (2.28 acres) to Residential, Medium Density (17.38 acres). The proposed project would also amend the Official Zoning Map of the City of Fresno to change the project site from Parks and Recreation/Bluff Protection/Urban Growth Management (PR/BP/UGM, 15.30 acres) and Public Institutional/Bluff Protection/Urban Growth Management (PI/BP/UGM, 2.28 acres) to a Residential Single-Family, Medium Density/Bluff Protection/Urban Growth Management (RS-5/BL/UGM) zone district. In addition, the proposed project would annex into the City of Fresno Community Facilities District (CFD) No. 11 for maintenance of parks and right-of-way. The project site plan is shown in Figure 3.

Access to the project would be provided by West Oak Avenue and West Alluvial Avenue. Regional access to the site is provided by State Route 99, which is located approximately 0.5 mile southwest of the project site. The project site is located in a partially developed area of the City and surrounding land uses primarily include single-family residences, as well as recreational and open space, light industry, and school uses. Rio Vista Middle School is located approximately 0.6 mile southeast of the project site, and River Bluff Elementary School is located approximately 0.8 mile southeast of the project site.

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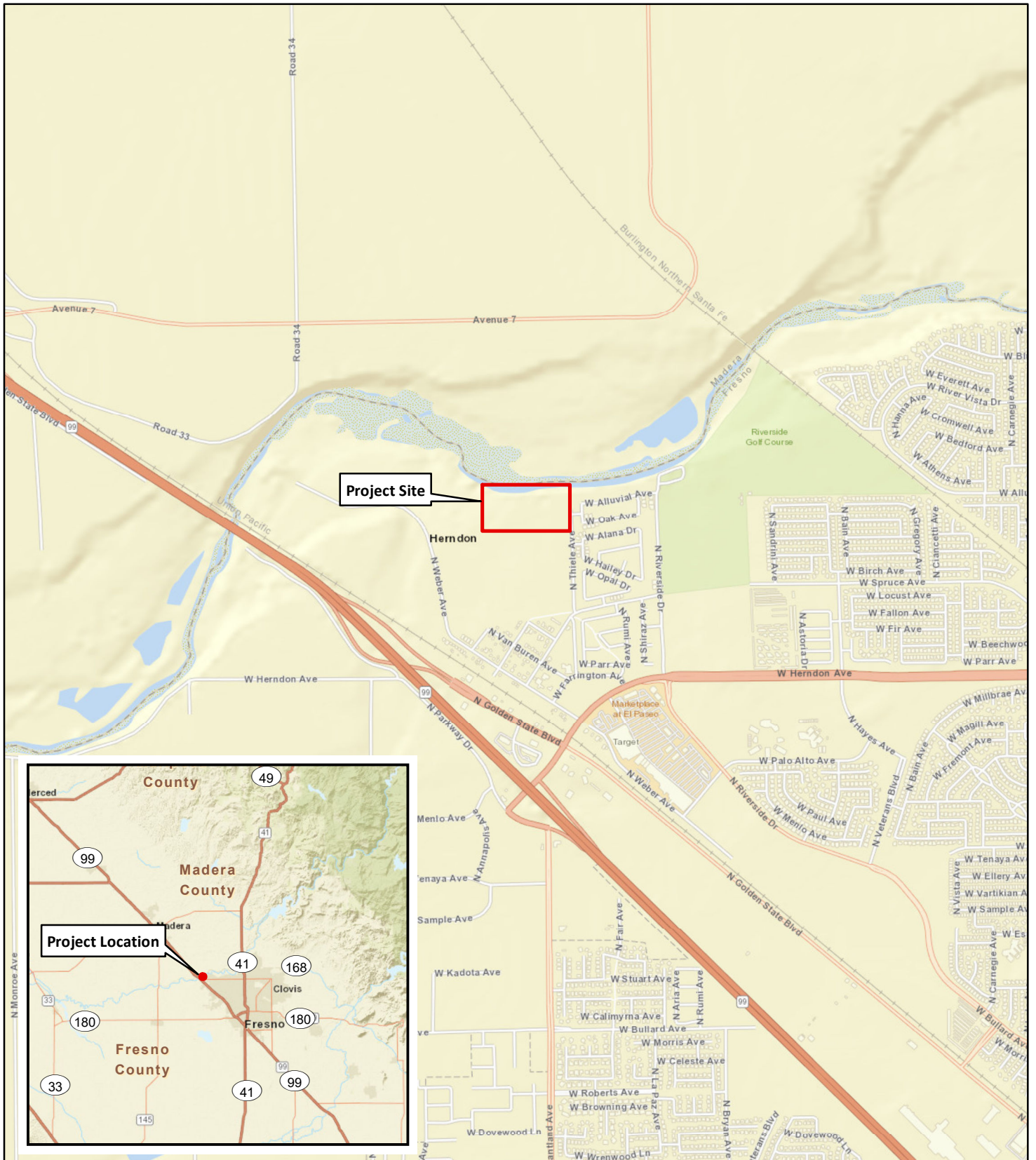
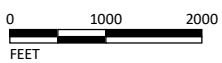


FIGURE 1



SOURCE: ESRI World Street Map.

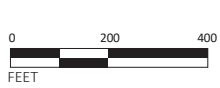
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LSA

FIGURE 2



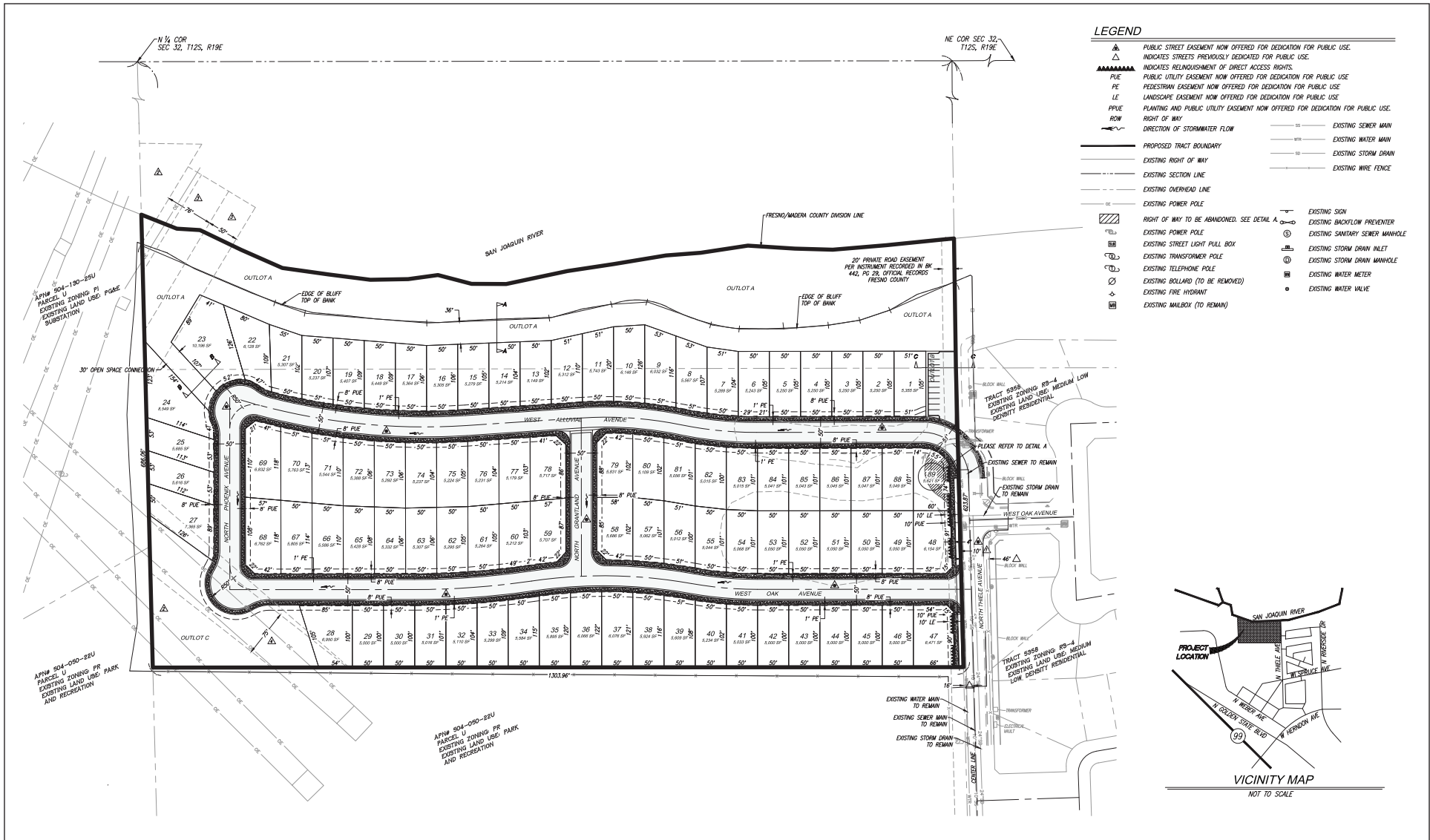
 Project Site Boundary (approximate)

SOURCES: GOOGLE EARTH, 9/9/19; LSA, 2021

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Tapestry III Project
Aerial Photograph of Project Site

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LSA FIGURE 3



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Existing Sensitive Land Uses in the Project Area

For the purposes of this analysis, sensitive receptors are areas of population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, day care centers, hospitals, parks, and similar uses which are sensitive to air quality. Impacts on sensitive receptors are of particular concern because they are the population most vulnerable to the effects of air pollution (SJVAPCD 2015a). The closest sensitive receptors to the project site include the single-family residences located immediately east of the project site, along North La Paz Avenue, West Alluvial Avenue, and West Oak Avenue. Single-family residences are also located approximately 1,350 feet south of the project site on North Josephine Avenue.

BACKGROUND

AIR QUALITY BACKGROUND

This section provides background information on air pollutants and their health effects and a brief description of the general health risks of toxics.

Air Pollutants and Health Effects

Both State and Federal governments have established health-based Ambient Air Quality Standards for six criteria air pollutants:¹ carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Long-term exposure to elevated levels of criteria pollutants may result in adverse health effects. However, emission thresholds established by an air district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and could adversely affect or delay the projected attainment target year for certain criteria pollutants.

Because of the conservative nature of the thresholds and the basin-wide context of individual project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as O₃ precursors like nitrogen oxides (NO_x) and reactive organic gases (ROG).

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

Ozone

O₃ is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as O₃ precursors, are combustion processes (including combustion in motor vehicle engines) and

¹ Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

the evaporation of solvents, paints, and fuels. Automobiles are the single largest source of O_3 precursors. O_3 is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with O_3 production through the photochemical reaction process. O_3 causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited - it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are 10 microns or less in diameter, or PM_{10} . Fine, suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, or $PM_{2.5}$, is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as byproducts of fuel combustion; through abrasion, such as tire or brake lining wear; or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Nitrogen Dioxide

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2 . Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Visibility-Reducing Particles

Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The Statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire San Joaquin Valley Air Basin (SJVAB) is unclassified for the State standard for visibility-reducing particles.

Valley Fever

Valley fever is a fungal infection caused by coccidioides organisms. It can cause fever, chest pain and coughing, among other signs and symptoms. The coccidioides species of fungi that cause valley fever are commonly found in the soil in certain areas, including Fresno County. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction and wind. The fungi can then be breathed into the lungs and cause valley fever, also known as acute coccidioidomycosis. A mild case of valley fever usually goes away on its own. In more severe cases of valley fever, doctors prescribe antifungal medications that can treat the underlying infection. Valley Fever is not contagious and therefore does not spread from person to person. Most cases (approximately 60 percent) have no symptoms or only very mild flu-like symptoms and do not see a doctor. When symptoms are present, the most common are fatigue, cough, fever, profuse sweating at night, loss of appetite, chest pain, generalized muscle and joint aches particularly of the ankles and knees. There may also be a rash that resembles measles or hives but develops more often as tender red bumps on the shins or forearms.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the USEPA and California Air Resources Board (CARB). Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

TACs do not have ambient air quality standards, but are regulated by the USEPA, CARB, and the SJVAPCD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines (CARB 2000). High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily “off-road” sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined. The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and Federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB anticipates that by 2020, average statewide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of the CARB’s Diesel Risk Reduction Plan, meaning that the statewide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000 (CARB 2000).

Table A summarizes the sources and health effects of air pollutants discussed in this section. Table B presents a summary of State and Federal ambient air quality standards (AAQS).

GREENHOUSE GAS BACKGROUND

This section provides background information on greenhouse gas emissions and the effects of global climate change.

Greenhouse Gases

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF₆)

Table A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> ● Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust ● Natural events, such as decomposition of organic matter 	<ul style="list-style-type: none"> ● Reduced tolerance for exercise ● Impairment of mental function ● Impairment of fetal development ● Death at high levels of exposure ● Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> ● Motor vehicle exhaust ● High temperature stationary combustion ● Atmospheric reactions 	<ul style="list-style-type: none"> ● Aggravation of respiratory illness ● Reduced visibility ● Reduced plant growth ● Formation of acid rain
Ozone (O ₃)	<ul style="list-style-type: none"> ● Atmospheric reaction of organic gases with nitrogen oxides in sunlight 	<ul style="list-style-type: none"> ● Aggravation of respiratory and cardiovascular diseases ● Irritation of eyes ● Impairment of cardiopulmonary function ● Plant leaf injury
Lead (Pb)	<ul style="list-style-type: none"> ● Contaminated soil 	<ul style="list-style-type: none"> ● Impairment of blood functions and nerve conduction ● Behavioral and hearing problems in children
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none"> ● Stationary combustion of solid fuels ● Construction activities ● Industrial processes ● Atmospheric chemical reactions 	<ul style="list-style-type: none"> ● Reduced lung function ● Aggravation of the effects of gaseous pollutants ● Aggravation of respiratory and cardiorespiratory diseases ● Increased cough and chest discomfort ● Soiling ● Reduced visibility
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> ● Combustion of sulfur-containing fossil fuels ● Smelting of sulfur-bearing metal ores Industrial processes 	<ul style="list-style-type: none"> ● Aggravation of respiratory diseases (asthma, emphysema) ● Reduced lung function ● Irritation of eyes ● Reduced visibility ● Plant injury ● Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board (2015).

Table B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
Ozone (O₃)^h	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM₁₀)ⁱ	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 (PM_{2.5})ⁱ	24-Hour	–	Gravimetric or Beta Attenuation	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³		12.0 µg/m ³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–		
Nitrogen Dioxide (NO₂)^j	Annual Arithmetic Mean	0.03 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	53 ppb (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 µg/m ³)		100 ppb (188 µg/m ³)		
Lead (Pb)^{l,m}	30-Day Average	1.5 µg/m ³	Atomic Absorption	–	Same as Primary Standard	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m ³ (for certain areas) ^l		
	Rolling 3-Month Average ⁱ	–		0.15 µg/m ³		
Sulfur Dioxide (SO₂)^k	24-Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	–		–		
	1-Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³) ^k	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ^k	–	
Visibility-Reducing Particles^l	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal 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^j	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

Table notes are provided on the following page.

- ^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, 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.
- ^b 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 PM_{2.5}, 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 USEPA for further clarification and current national policies.
- ^c 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.
- ^d Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
- ^e National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ^f National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ^g Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.
- ^h On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- ⁱ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} 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.
- ^j 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.
- ^k 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.
- ^l The CARB 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.
- ^m 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.
- ⁿ In 1989, the CARB 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.

°C = degrees Celsius

CARB = California Air Resources Board

USEPA = United States Environmental Protection Agency

ppb = parts per billion

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

Source: California Air Resources Board. 2016. Website: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf> (accessed June 2021).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO₂, methane, and N₂O, some gases, like HFCs, PFCs, and SF₆ are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term “GHGs” will refer collectively to the six gases listed above only.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e). Table C shows the GWP for each type of GHG. For example, sulfur hexafluoride is 22,800 times more potent at contributing to global warming than carbon dioxide.

Table C: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF ₄)	50,000	7,390
PFC: Hexafluoromethane (C ₂ F ₆)	10,000	12,200
Sulfur Hexafluoride (SF ₆)	3,200	22,800

Source: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC* (Intergovernmental Panel on Climate Change, 2007).

The following discussion summarizes the characteristics of the six GHGs and black carbon.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO₂ each year, far

outweighing the 7 billion tons of man-made emissions of CO₂ each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO₂, and consequently, the gas is building up in the atmosphere.

In 2018, CO₂ emissions accounted for approximately 83 percent of California's overall GHG emissions (CARB 2021). The transportation sector accounted for California's largest portion of CO₂ emissions, approximately 47 percent, with gasoline consumption making up the greatest portion of these emissions. Industrial sources were California's second largest category of GHG emissions.

Methane

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH₄ emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH₄ in California. Methane accounted for approximately 9 percent of GHG emissions in California in 2018 (CARB 2021).

Total annual emissions of methane in California are approximately 40 million tons, primarily from livestock enteric fermentation and manure management. Industrial sources and landfills are also important sources of methane. Other sources contribute only a small fraction to methane emissions, and include residential, transportation, electricity generation, and commercial sources.

Nitrous Oxide

Nitrous oxide is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N₂O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N₂O emissions in California. Nitrous oxide emissions accounted for approximately 3 percent of GHG emissions in California in 2018 (CARB 2021).

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.² PFCs and SF₆ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF₆ accounted for about 5 percent of manmade GHG emissions (CO₂e) in California in 2018 (CARB 2021).

² The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the O₃ layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for O₃ depletion.

Black Carbon

Black carbon is the most strongly light-absorbing component of PM formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of PM_{2.5} and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb a million times more energy than CO₂ (USEPA 2015). Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global-warming.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California have decreased approximately 70 percent between 1990 and 2010 and are expected to continue to decline significantly due to controls on mobile diesel emissions.

Global Climate Change

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose $0.6 \pm 0.2^\circ$ Celsius ($^\circ\text{C}$) or $1.1 \pm 0.4^\circ$ Fahrenheit ($^\circ\text{F}$) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO₂) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.³

³ The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

REGULATORY SETTING

AIR QUALITY REGULATORY SETTING

The USEPA and the CARB regulate direct emissions from motor vehicles. The SJVAPCD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

Federal Regulations

Federal Clean Air Act

The 1970 Federal Clean Air Act authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The Federal Clean Air Act Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the Clean Air Act, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

State Regulations

California Clean Air Act

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California ambient air quality standards (CAAQS) for CO, O₃, SO₂ and NO₂ by the earliest practical date. The California Clean Air Act provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

Regional and Local Regulations

San Joaquin Valley Air Pollution Control District

The SJVAPCD has specific air quality-related planning documents, rules, and regulations. This section summarizes the local planning documents and regulations that may be applicable to the project as administered by the SJVAPCD with CARB oversight.

Rule 2280—Portable Equipment Registration. Portable equipment used at project sites for less than six consecutive months must be registered with the SJVAPCD. The SJVAPCD will issue the registrations 30 days after receipt of the application (SJVAPCD 1996a).

Rule 2303—Mobile Source Emission Reduction Credits. A project may qualify for SJVAPCD vehicle emission reduction credits if it meets the specific requirements of Rule 2303 for any of the following categories (SJVAPCD 1994):

- Low-Emission Transit Buses
- Zero-Emission Vehicles
- Retrofit Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles
- Retrofit Heavy-Duty Vehicles

Rule 4201 and Rule 4204—Particulate Matter Concentration and Emission Rates. Rule 4201 and Rule 4202 apply to operations that emit or may emit dust, fumes, or total suspended particulate matter (SJVAPCD 1996b).

Rule 4601 – Architectural Coatings. This rule limits VOCs from architectural coatings by specifying architectural coatings storage, cleanup, and labeling requirements and applies to any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating.

Rule 8011—General Requirements: Fugitive Dust Emission Sources. Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of control measures for fugitive dust emission sources. For projects in which construction-related activities would disturb equal to or greater than 1 acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD-approved Dust Control Plan or Construction Notification Form, before issuance of the first grading permit, be made a condition of approval (SJVAPCD 2004).

Rule 9510—Indirect Source Review. In December 2005, the SJVAPCD adopted the Indirect Source Rule (Rule 9510) to meet its emission reduction commitments in the PM₁₀ and O₃ Attainment Plans. ISR regulations applies to any development project that includes at least 50 residential units, but less than 250 units. This Rule requires project applicants to reduce operation emission of NO_x by 33.3 percent of the project’s operational baseline and 50 percent of the project’s operational PM₁₀ emissions (SJVAPCD 2017).

Guidance for Assessing and Mitigating Air Quality Impacts. The SJVAPCD prepared the GAMAQI to assist lead agencies and project applicants in evaluating the potential air quality impacts of projects in the SJVAB. The GAMAQI provides SJVAPCD-recommended procedures for evaluating potential air quality impacts during the CEQA environmental review process. The GAMAQI provides guidance on evaluating short-term (construction) and long-term (operational) air emissions. The most recent version of the GAMAQI, adopted March 19, 2015, was used in this evaluation. It contains guidance on the following:

- Criteria and thresholds for determining whether a project may have a significant adverse air quality impact;
- Specific procedures and modeling protocols for quantifying and analyzing air quality impacts;
- Methods to mitigate air quality impacts; and
- Information for use in air quality assessments and environmental documents, including air quality, regulatory setting, climate, and topography data.

Regional Air Quality Management Plan. The SJVAPCD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The SJVAPCD does not have one single AQMP for criteria pollutants, rather the District address each criteria pollutant with its own Plan. The SJVAPCD has the following AQMPs:

- 2016 Moderate Area Plan for the 2012 PM_{2.5} standard
- 2016 Plan for the 2008 8-Hour O₃ Standard
- 2013 Plan for the Revoked 1-Hour O₃ Standard
- 2007 PM₁₀ Maintenance Plan
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide

The SJVAPCD's AQMPs incorporate the latest scientific and technological information and planning assumptions, including updated emission inventory methodologies for various source categories. The SJVAPCD's AQMPs included the integrated strategies and measures needed to meet the national ambient air quality standards (NAAQS), implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual PM_{2.5} standards.

City of Fresno General Plan

Air quality is addressed in the City of Fresno General Plan, adopted on December 18, 2014 (City of Fresno 2014). The General Plan includes goals, policies, and implementing actions that work toward clean air with minimal toxic substances and odor, clean air with minimal particulate content, effective and efficient transportation infrastructure, and coordinated and cooperative intergovernmental air quality programs. The following objective and implementing policies from the General Plan would be applicable to the proposed project.

- **Objective RC-4:** In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.
- **Policy RC-4-a:** Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.
- **Policy RC-4-b:** Conditions of Approval. Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.
- **Policy RC-4-c:** Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

- **Policy RC-4-d: Forward Information.** Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.
- **Policy RC-4-k: Electric Vehicle Charging.** Develop standards to facilitate electric vehicle charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes more widespread.

GREENHOUSE GAS REGULATORY SETTING

This section describes the regulatory framework related to GHGs at the federal, State, and local level.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO₂ emissions under the CAA.

While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to GCC, including the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) constitute a threat to public health and welfare and that the combined emissions from motor vehicles cause and contribute to GCC, leading to national GHG emission standards.

State Regulations

CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 32 (2006), California Global Warming Solutions Act

California's major initiative for reducing GHG emissions is Assembly Bill (AB) 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) CO₂e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008, and contains the main strategies California will implement to achieve the reduction of approximately 169 MMT of CO₂e, or approximately 30 percent, from the State's projected 2020 emission level of 596 MMT of CO₂e under a business-as-usual scenario (this is a reduction of 42 MMT CO₂e, or almost 10 percent from 2002-2004 average emissions). The Scoping Plan also

includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust California Environmental Quality Act (CEQA) equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by Executive Order B-30-15 and codified by Senate Bill (SB) 32 (CARB 2017).

Senate Bill 375 (2008)

Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, the CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). The CARB may update the targets every 4 years and must update them every 8 years. MPOs in turn must demonstrate how their plans, policies and transportation investments meet the targets set by the CARB through Sustainable Community Strategies (SCS). The SCS are included with the Regional Transportation Plan (RTP), a report required by State law. However, if an MPO finds that their SCS will not meet the GHG reduction target, they may prepare an Alternative Planning Strategy (APS). The APS identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015)

Governor Jerry Brown signed Executive Order B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act

SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California’s renewable portfolio standard from 33 percent to 50 percent; and
- Increasing energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for, and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197

In summer 2016 the Legislature passed, and the Governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown’s April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State’s 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change (IPCC) analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO₂e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California’s RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure

future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO₂e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Regional and Local Regulations

San Joaquin Valley Air Pollution Control District

In August 2008, the SJVAPCD adopted the Climate Change Action Plan (CCAP) (SJVAPCD 2008). The CCAP directed the SJVAPCD to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

In December 2009, the SJVAPCD adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009a). The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA. Projects implementing BPS in accordance with SJVAPCD’s guidance would be determined to have a less than significant individual and cumulative impact on GHG emissions and would not require project specific quantification of GHG emissions (SJVAPCD 2009b).

City of Fresno Greenhouse Gas Reduction Plan

The City of Fresno’s GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. The City of Fresno updated its 2014 GHG Reduction Plan in the year 2020 (GHG Reduction Plan Update) to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. However, the GHG Reduction Plan Update is being prepared as part of the City’s General Plan Program Environmental Impact Report (PEIR) Update, which is still in process and has not yet been adopted.

ENVIRONMENTAL SETTING

EXISTING CLIMATE AND AIR QUALITY

The project site is located in the City of Fresno, which is part of the SJVAB and is under the jurisdiction of the SJVAPCD.

Air quality is a function of both local climate and local sources of air pollution. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The SJVAB is comprised of approximately 25,000 square miles and covers eight counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare, and the western portion of Kern. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay. An aerial view of the SJVAB would simulate a "bowl" opening only to the north. These topographic features restrict air movement through and out of the basin.

Although marine air generally flows into the basin from the San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the SJVAB. 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 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeasterly direction through the SJVAB, through Tehachapi pass, into the Southeast Desert Air Basin. In the winter, wind direction is reversed and flows in a north-northwesterly direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The annual average temperature varies throughout the SJVAB, ranging from the low 40s to high 90s, measured in degrees Fahrenheit (°F). With a more pronounced valley influence, inland areas show more variability in annual minimum and maximum temperatures than coastal areas. The

climatological station closest to the site is the Fresno Yosemite (043257) AP Station. The monthly average maximum temperature recorded at this station from January 1948 to June 2016 ranged from 54.6°F in January to 98.3°F in July, with an annual average maximum of 76.5°F. The monthly average minimum temperature recorded at this station ranged from 37.3°F in December to 65.7°F in July, with an annual average minimum of 50.4°F. These levels are still representative of the project area (WRCC 2020). December is typically the coldest month and July is typically the warmest month in this area of the SJVAB.

The majority of annual rainfall in the SJVAB occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in desert regions and slightly heavier showers near the lower portion of the Basin and along the Sierra Nevada mountains to the east. Average monthly rainfall during that period varied from 0.01 inches in July to 2.09 inches in January, with an annual total of 10.89 inches (WRCC 2020). Patterns in monthly and yearly rainfall totals are predictable due to the recognizable differences in seasons within the valley.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of cooling of the atmosphere, air temperature usually decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the “mixing height.” This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, preventing low pressure systems that might otherwise bring rain and winds that clean the air.

Inversion layers are significant in determining O₃ formation, and CO and PM₁₀ concentrations. O₃ and its precursors will mix and react to produce higher ozone concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as CO. PM₁₀ is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels of pollutants are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth’s surface goes through a radiative process on clear nights, where heat energy is transferred from the ground to a cooler night sky. As the earth’s surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM₁₀. In the winter, the greatest pollution problems are CO and NO_x because of extremely low inversions and air stagnation during the night and early morning hours. In

the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

ATTAINMENT STATUS

The CARB is required to designate areas of the State as attainment, nonattainment or unclassified for all State standards. An *attainment* designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A *nonattainment* designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An *unclassified* designation signifies that data does not support either an attainment or nonattainment status. The California Clean Air Act divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA also designates areas as attainment, nonattainment, or classified. The air quality data are also used to monitor progress in attaining air quality standards. Table D provides a summary of the attainment status for the SJVAB with respect to national and State ambient air quality standards.

Table D: Attainment Status of Criteria Pollutants in the San Joaquin Valley Air Basin

Pollutant	State	Federal
O ₃ 1-hour	Nonattainment/Severe	No Federal Standard ¹
O ₃ 8-hour	Nonattainment	Extreme Nonattainment ²
PM ₁₀	Nonattainment	Attainment ³
PM _{2.5}	Nonattainment	Nonattainment ⁴
CO	Attainment/Unclassified	Attainment/Unclassified
NO ₂	Attainment	Attainment/Unclassified
SO ₂	Attainment	Attainment/Unclassified
Lead	Attainment	No Designation/Classification
All others	Attainment/Unclassified	N/A

Source: SJVAPCD, Ambient Air Quality Standards and Valley Attainment Status. Website: <http://www.valleyair.org/aqinfo/attainment.htm> (accessed June 2021).

¹ Effective June 15, 2005, the U.S. Environmental Protection Agency (USEPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. USEPA had previously classified the SJVAB as extreme nonattainment for this standard. USEPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

² Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, USEPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

³ On September 25, 2008, USEPA re-designated the San Joaquin Valley to attainment for the PM₁₀ National Ambient Air Quality Standard (NAAQS) and approved the PM₁₀ Maintenance Plan.

⁴ The Valley is designated nonattainment for the 1997 PM_{2.5} NAAQS. USEPA designated the Valley as nonattainment for the 2006 PM_{2.5} NAAQS on November 13, 2009 (effective December 14, 2009).

CO = carbon monoxide

N/A = not applicable

NO₂ = nitrogen dioxide

O₃ = ozone

PM₁₀ = particulate matter less than 10 microns in size

PM_{2.5} = particulate matter less than 2.5 microns in size

SJVAB = San Joaquin Valley Air Basin

SO₂ = sulfur dioxide

AIR QUALITY MONITORING RESULTS

Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and state air quality regulating agencies. Ambient air data collected at permanent monitoring stations are used by the USEPA to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary NAAQS. Attainment areas are required to maintain their status through moderate, yet effective air quality maintenance plans. Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the state on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data.

The SJVAPCD, with CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring station closest to the site is the Fresno-Garland Monitoring Station located at 3727 North First Street, which monitors criteria air pollutant data. The air quality trends from this station are used to represent the ambient air quality in the project area. Ambient air quality in the project area from 2018 to 2020 are shown in Table E.

As indicated in the monitoring results, the State 1-hour O₃ standard was exceeded eight times in 2018, two times in 2019, and no exceedances in 2020 and the State 8-hour O₃ standard was exceeded 38 times in 2018 and 18 times in 2019. In addition, the federal 8-hour O₃ standard was exceeded 36 times in 2018 and 17 times in 2019. There is no O₃ data available for 2020 at this time. The State PM₁₀ standard was exceeded 101 times in 2018, 72 times in 2019, and 13 times in 2020. The federal PM₁₀ standard was not exceeded in 2018, three times in 2019, and 13 times in 2020. The federal PM_{2.5} standard was exceeded 36 times in 2018, 10 times in 2019, and no exceedances in 2020. The CO, SO₂, and NO₂ standards were not exceeded in this area during the 3-year period.

GREENHOUSE GAS EMISSIONS INVENTORY

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, California, and local GHG emission inventories.

Global Emissions

Worldwide emissions of GHGs in 2016 totaled approximately 26 billion metric tons of CO₂e (UNFCCC 2016). Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

Table E: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2018	2019	2020
Carbon Monoxide (CO) – Fresno-Garland Monitoring Station				
Maximum 1-hr concentration (ppm)		2.1	1.9	5.0
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		2.0	1.5	2.5
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9.0 ppm	0	0	0
Ozone (O₃) - Fresno-Garland Monitoring Station				
Maximum 1-hr concentration (ppm)		0.121	0.105	0.119
Number of days exceeded:	State: > 0.09 ppm	8	2	0
Maximum 8-hr concentration (ppm)		0.099	0.084	0.099
Number of days exceeded:	State: > 0.070 ppm	38	18	ND
	Federal: > 0.070 ppm	36	17	ND
Coarse Particulates (PM₁₀) - Fresno-Garland Monitoring Station				
Maximum 24-hr concentration (µg/m ³)		130.4	328.2	296.0
Number of days exceeded:	State: > 50 µg/m ³	101	72	13
	Federal: > 150 µg/m ³	0	3	13
Annual arithmetic average concentration (µg/m ³)		40.6	35.9	ND
Exceeded for the year:	State: > 20 µg/m ³	Yes	Yes	Yes
Fine Particulates (PM_{2.5}) – Fresno-Garland Monitoring Station				
Maximum 24-hr concentration (µg/m ³)		95.7	51.3	171.8
Number of days exceeded:	Federal: > 35 µg/m ³	36	10	ND
Annual arithmetic average concentration (µg/m ³)		16.6	11.2	19.8
Exceeded for the year:	State: > 12 µg/m ³	Yes	No	Yes
	Federal: > 15 µg/m ³	Yes	No	Yes
Nitrogen Dioxide (NO₂) – Fresno-Garland Monitoring Station				
Maximum 1-hr concentration (ppm)		0.068	0.055	0.048
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.011	0.011	0.096
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO₂) – Fresno-Garland Monitoring Station				
Maximum 24-hr concentration (ppm)		0.0072	0.0089	0.0162
Number of days exceeded:	State: > 0.04 ppm	No	No	No
	Federal: > 0.14 ppm	No	No	No
Annual arithmetic average concentration (ppm)		0.0006	0.0004	0.00005
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Source: United States Environmental Protection Agency. 2018 - 2020 Air Quality Data. Website: <https://www.epa.gov/outdoor-air-quality-data> (accessed June 2021). California Air Resources Board (CARB). iADAM: Air Quality Data Statistics. Website: <http://www.arb.ca.gov/adam/welcome.html> (accessed June 2021).

µg/m³ = micrograms per cubic meter

hr = hour

ND = no data available

O₃ = ozone

PM₁₀ = particulate matter less than 10 microns in size

PM_{2.5} = particulate matter less than 2.5 microns in size

ppm = parts per million

United States Emissions

In 2019, the United States emitted about 6,558.3 MMT CO₂e. The total 2019 CO₂e emissions represent a 1.8 percent increase from 1990 to 2019, down from a high of 15.2 percent above 1990 levels in 2007. Overall, net emissions in 2019 increased 1.7 percent since 2018 and decreased 13.0 percent from 2005 levels. Of the six major sectors—residential, commercial, agricultural, industry, transportation, and electricity generation—transportation accounted for the highest amount of GHG emissions in 2019 (approximately 37.5 percent), with electricity generation second at 33.1 percent and industry third at 16.9 percent (USEPA 2021).

State of California Emissions

According to CARB emission inventory estimates, the State emitted approximately 425 MMT CO₂e emissions in 2018, 8 MMT CO₂e higher than 2017 levels and 6 MMT CO₂e below the 2020 GHG Limit of 431 MMT CO₂e.

CARB estimates that transportation was the source of approximately 39.9 percent of the State’s GHG emissions in 2018, followed by industrial sources at 21.0 percent and electricity generation at 14.8 percent. The remaining sources of GHG emissions were agriculture at 7.7 percent, residential activities at 6.1 percent, commercial activities at 3.7 percent, high GWP (includes refrigerants used in vehicles, airplanes, trains, ships and boats) at 4.8 percent, and waste at 2.0 percent (CARB 2020).

City of Fresno Emissions

The City’s GHG Reduction Plan Update included a 2016 baseline GHG inventory. As indicated above, the GHG Reduction Plan Update is being prepared as part of the City’s General Plan PEIR Update, which is still in process and has not yet been adopted. However, for informational purposes, the 2016 baseline GHG inventory is provided below. As shown in Table F, motor vehicles were the largest source at approximately 52 percent of the City’s GHG emissions in 2016, followed by commercial and residential energy at 18 and 16 percent respectively. The remaining sources included fugitive emissions at 9 percent and solid waste sources at 4 percent. Agriculture and industrial energy emissions each account for less than 1 percent of total emissions.

Table F: City of Fresno GHG Emissions by Sector for 2016

Sector	2016 (MT CO ₂ e)	Percent of Total Emissions
Motor Vehicles	1,520,052	52
Residential Energy	479,371	16
Commercial Energy	524,838	18
Fugitive Emissions	270,130	9
Solid Waste	119,167	4
Industrial Energy	10,055	<1
Agriculture Energy	20	<1
Total	2,923,633	100

Source: ICLEI Local Governments for Sustainability, City of Fresno 2016 Inventory Update, 2018.
MT CO₂e = metric tons carbon dioxide equivalent

METHODOLOGY

CONSTRUCTION EMISSIONS

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. The California Emissions Estimator Model (CalEEMod) Version 2020.4.0 computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site.

Construction of the proposed project is anticipated to begin in July 2022 and be completed in approximately 18 months. The construction worker, vendor, and haul trips included in CalEEMod are based on CalEEMod defaults. This analysis utilizes CalEEMod defaults for construction equipment and assumes that the project would utilize Tier 2 construction equipment for consistency with the CARB in-use off-road diesel fueled fleets regulation.

OPERATIONAL EMISSIONS

This air quality analysis includes estimating emissions associated with long-term operation of the project. Indirect emissions of criteria pollutants with regional impacts would be emitted by project-generated vehicle trips. In addition, localized air quality impacts (i.e., higher carbon monoxide concentrations or “hot-spots”) near intersections or roadway segments in the project vicinity would also potentially occur due to project-generated vehicle trips.

Consistent with SJVAPCD’s guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project. The analysis was conducted using land use codes *Single-Family Residences*. Trip generation rates used in CalEEMod for the project were based on the project’s trip generation estimates, which assume the proposed project would typically generate approximately 840 average daily trips. In addition, this analysis assumes that the proposed project will comply with 2019 Title 24 standards, including solar installation and electrical vehicle charging outlets in all homes. The analysis also assumes the use of low VOC paints (consistent with SJVAPCD Rule 4601), would not include wood burning stoves or fireplaces (consistent with SJVAPCD Rule 4901), use water-efficient irrigation systems (consistent with General Plan Policy RC-7-h, and divert 75 percent of waste disposed (consistent with the CalRecycle Waste Diversion and Recycling Mandate and General Plan Policies PU-9-b and RC-11-a). Where project-specific data were not available, default assumptions (e.g., energy usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. CalEEMod output sheets are included in Appendix A.

GREENHOUSE GAS METHODOLOGY

GHG emissions associated with the proposed project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be minimal long-term GHG emissions associated with project-related vehicular trips or other sources. Recognizing that the field of GHG analysis is rapidly evolving, the approaches advocated most recently indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area. The methodology and/or qualitative description of the sources of GHG emissions associated with transportation, electricity, water use, and solid waste disposal are described below.

Transportation

Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips. Transportation is the largest source of GHG emissions in California and represents approximately 39 percent of annual CO₂ emissions in the State (CARB 2020). For land use development projects, vehicle miles traveled (VMT) and vehicle trips are the most direct indicators of GHG emissions associated with the proposed project. The proposed project would typically generate approximately 840 average daily trips, which were included in the CalEEMod analysis.

Electricity and Natural Gas

Buildings represent 39 percent of United States primary energy use and 70 percent of electricity consumption (Department of Energy 2017). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. The project is anticipated to increase the use of electricity and natural gas; however, as part of the project's compliance with the latest California Building Code standards, the project is expected to be relatively energy efficient and would incorporate green building measures in compliance with the latest CALGreen's standard building measures for residential developments and Title 24 requirements (CalGreen 2020).

Water Use

Water and wastewater related GHG emissions are based on water supply and conveyance, water treatment, water distribution, and wastewater treatment. Each element of the water use cycle has unique energy intensities (kilowatt hours [kWh]/million gallons [MG]). Recognizing that the actual energy intensity in each component of the water use cycle will vary by utility, the California Energy Commission (CEC) found supply and conveyance of water to range in intensity from 0 to 16,000 kWh/MG, while filtration and treatment varied from 100 to 1,500 kWh/MG, distribution varied from 700 to 1,200 kWh/MG, and wastewater collection and treatment varied from 1,100 to 5,000 kWh/MG.

Solid Waste Disposal

Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Land filling and other methods of disposal use energy for transporting and managing the waste, and these activities produce additional GHGs to varying degrees. Land filling, the most common waste

management practice, results in the release of CH₄ from the anaerobic decomposition of organic materials. CH₄ is 25 times more potent a GHG than CO₂. However, landfill CH₄ can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

THRESHOLDS OF SIGNIFICANCE

The State *CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects as shown in Table G.

**Table G: SJVAPCD Construction and Operation Thresholds of Significance
(Tons per Year)**

	CO	NO_x	ROG	SO_x	PM₁₀	PM_{2.5}
Construction Thresholds	100.0	10.0	10.0	27.0	15.0	15.0
Operation Thresholds	100.0	10.0	10.0	27.0	15.0	15.0

Source: SJVAPCD. 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*. March 2018.

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter less than 10 microns in diameter

PM_{2.5} = particulate matter less than 2.5 microns in diameter

ROG = reactive organic gases

SO_x = sulfur oxides

The emissions thresholds in the SJVAPCD GAMAQI were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project’s contribution to health risks.

The State *CEQA Guidelines* indicate that a project would normally have a significant adverse GHG emission impact if the project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reduction the emissions of GHGs.

Section 15064.4 of the CEQA Guidelines states that: “A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.” In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions, or to rely on a qualitative analysis or performance-based standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Therefore, consistent with the State CEQA Guidelines, Section 15183.5, if a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy that meets the standards, it can be presumed that the project would not have significant greenhouse gas emission impacts.

The City of Fresno’s GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. The City’s 2014 GHG Reduction Plan meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with State CEQA Guidelines Section 15183.5. However, since the proposed project would not be operational until 2023 and the City’s 2014 GHG Reduction Plan was prepared based on the State’s 2020 GHG targets, which are now superseded by State policies (i.e., the 2019 California Green Building Code) and the 2030 GHG targets established in SB 32.

The City of Fresno updated its 2014 GHG Reduction Plan in the year 2020 to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. However, the GHG Reduction Plan Update has not yet been approved.

In addition, both the 2014 GHG Reduction Plan and the GHG Reduction Plan Update require an analysis of GHG emissions to ensure that the change in land use designation would not result in a significant increase in GHG emissions compared to the existing land use designation.

The SJVAPCD has adopted a CCAP, which includes suggested BPS for proposed residential development projects. However, the SJVAPCD’s CCAP was adopted in 2009 and was also prepared based on the State’s 2020 GHG targets, which are now superseded by State policies and the 2030 GHG targets. As such, absent any other local or regional Climate Action Plan, the proposed project was analyzed for consistency with the City’s GHG Reduction Plans and State GHG reduction goals.

PROJECT IMPACTS

Air quality and GHG impacts associated with implementation of the proposed project are described below.

AIR QUALITY IMPACTS

This section describes potential air quality impacts associated with the proposed project.

Consistency with Applicable Air Quality Plans

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the San Joaquin Valley into attainment, the SJVAPCD has developed the 2013 Plan for the Revoked 1-Hour O₃ Standard (Ozone Plan), adopted on September 19, 2013. The SJVAPCD also adopted the 2016 Plan for the 2008 8-Hour O₃ Standard in June 2016 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour O₃ standard (SJVAPCD 2013).

To assure the SJVAB's continued attainment of the USEPA PM₁₀ standard, the SJVAPCD adopted the 2007 PM₁₀ Maintenance Plan in September 2007. SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions) is designed to reduce PM₁₀ emissions generated by human activity. The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards in November 2018 to address the USEPA 1997 annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³, the 2006 24-hour PM_{2.5} standard of 35 µg/m³, and the 2012 annual PM_{2.5} standard of 12 µg/m³ (SJVAPCD 2018).

CEQA requires that certain projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. As discussed below, construction of the project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. Implementation of SJVAPCD Regulation VIII would further reduce construction dust impacts. Operational emissions associated with the project would not exceed SJVAPCD established significance thresholds for ROG, NO_x, CO, sulfur oxides (SO_x), PM₁₀, or PM_{2.5} emissions. With implementation of Rule 9510, NO_x and PM₁₀ emissions would further be reduced. Therefore, the project would not conflict with or obstruct implementation of SJVAPCD air quality plans.

Criteria Pollutant Analysis

The SJVAB is designated as non-attainment for O₃ and PM_{2.5} for federal standards and non-attainment for O₃, PM₁₀, and PM_{2.5} for State standards. The SJVAPCD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in

nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the SJVAPCD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and TACs such as diesel exhaust particulate matter.

Project construction activities would include grading, paving, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction. The project would be required to comply with Regulation VIII (Fugitive PM₁₀ Prohibition) to control fugitive dust. SJVAPCD Rule 8011, General Requirements, and Rule 8021, Construction, Demolition Excavation, Extraction, and Other Earthmoving Activities, would also be applicable (SJVAPCD 2007). With compliance with Regulation VIII measures and Rules 8011 and 8021, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, volatile organic compounds (VOCs) and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly

while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0, consistent with SJVAPCD recommendations. Table H lists the tentative construction schedule for based on CalEEMod defaults starting in July 2022 and completing construction in December 2023, a duration of approximately 16 months. Table I lists the potential construction equipment to be used during project construction under each phase of construction.

Table H: Tentative Project Construction Schedule

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Site Preparation	7/1/2022	7/14/2022	5	10
2	Grading	7/15/2022	8/25/2022	5	30
3	Building Construction	8/26/2022	10/19/2023	5	300
4	Paving	10/20/2023	11/16/2023	5	20
5	Architectural Coating	11/17/2023	12/14/2023	5	20

Source: Compiled by LSA using CalEEMod defaults (June 2021).

Table I: Diesel Construction Equipment Utilized by Construction Phase

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

Source: Compiled by LSA using CalEEMod defaults (June 2021).

Other precise details of construction activities are unknown at this time; therefore, default settings (e.g., construction equipment) from CalEEMod were assumed. Table J identifies the total annual emissions associated with construction activities. Appendix A provides CalEEMod output sheets.

Table J: Project Construction Emissions

Construction Year	Total Regional Pollutant Emissions ¹ (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2022	0.1	2.0	1.5	<0.1	0.2	0.1
2023	1.6	2.7	2.2	<0.1	0.1	0.1
SJVAPCD Thresholds	10.0	10.0	100.0	27.0	15.0	15.0
Significant Emissions?	No	No	No	No	No	No

Source: Compiled by LSA (June 2021).

¹ All on-site and off-site emissions are presented as construction mitigation in the CalEEMod model output files.

CO = carbon monoxide

lbs/day = pounds per day

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

SJVAPCD = San Joaquin Valley Air Pollution Control District

SO_x = sulfur oxides

ROG = reactive organic gases

As shown in Table J, construction emissions associated with the project would not exceed the SJVAPCD's thresholds for ROG, NO_x, CO, SO_x, PM_{2.5}, or PM₁₀ emissions.

The SJVAPCD requires the implementation of Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM₁₀ emissions during the construction period.

Implementation of the Regulatory Control Measure AIR-1 would ensure that the proposed project complies with Regulation VIII and ensures the short-term construction period air quality impacts would be less than significant.

Regulatory Control Measure AIR-1: Consistent with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site:

- 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.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.

- 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.
- 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.)
- Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/ suppressant.

As shown in Table J, construction emissions associated with the project would not exceed the significance criteria for annual ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} emissions. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS.

Operational Air Quality Impacts

Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

PM₁₀ emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM₁₀ occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand for the proposed project could include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions.

The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources. The project would comply with the

2019 California Building Standards Code (California Code of Regulations, Title 24), which was accounted for in the analysis.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings, consumer products, and the use of landscape maintenance equipment. This analysis assumes that the proposed project would not include any wood burning stoves or fireplaces.

Emission estimates for operation of the project were calculated using CalEEMod. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project; emissions are released in other areas of the Air Basin. The annual emissions associated with project operational trip generation, energy, and area sources are identified in Table K. CalEEMod output sheets are included in Appendix A.

Table K: Project Operational Emissions

Emission Type	Pollutant Emissions (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Sources	0.8	<0.1	0.7	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Mobile Sources	0.4	0.8	3.7	<0.1	0.8	0.2
Total Project Emissions	1.2	0.9	4.4	<0.1	0.8	0.2
SJVAPCD Thresholds	10.0	10.0	100.0	27.0	15.0	15.0
Significant?	No	No	No	No	No	No

Source: Compiled by LSA (June 2021).

CO = carbon monoxide

lbs/day = pounds per day

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

SJVAPCD = San Joaquin Valley Air Pollution Control District

SO_x = sulfur oxides

ROG = reactive organic gases

The results shown in Table K indicate the project would not exceed the significance criteria for annual ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} emissions; therefore, the proposed project would not have a significant effect on regional air quality. As shown in Table K, SJVAPCD emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} would be below the thresholds. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or State ambient air quality standards.

The project would be required to implement District Rule 9510 ISR as the project would develop more than the 50 residential unit threshold. Implementation of Rule 9510 would reduce operational emissions of NO_x and PM₁₀ by 33.3 percent and 50 percent respectively. The Project Applicant must submit an Air Impact Assessment to the SJVAPCD consistent with Rule 9510 prior to obtaining building permits.

Long-Term Microscale (CO Hot Spot) Analysis

There is a direct relationship between traffic and circulation congestion and CO impacts because exhaust fumes from vehicular traffic are the primary source of CO, which is a localized gas that

dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections. These areas of vehicle congestion have historically had the potential to create pockets of elevated levels of CO that are called “hot spots.” However, with the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the project vicinity have steadily declined.

The proposed project would generate approximately 840 average daily trips, with 66 trips occurring in the AM peak hour and 88 trips occurring in the PM peak hour. Given the existing CO concentrations in the project area are relatively low (See Table E), project-related vehicles are not expected to contribute significantly to increased levels of CO concentrations in the project area. The project is not expected to result in CO concentrations that would exceed the State or federal CO standards. Because no new CO hot spots would occur, there would be no project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. The closest sensitive receptors to the project site include the single-family residences located immediately east of the project site, along North La Paz Avenue, West Alluvial Avenue, and West Oak Avenue. Single-family residences are also located approximately 1,350 feet south of the project site on North Josephine Avenue

Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement Regulatory Control Measure AIR-1 described above. With implementation of this mitigation measure, project construction pollutant emissions would be below the SJVAPCD significance thresholds.

In addition, as shown in Table K, the emissions from operations resulting from implementation of the proposed project are expected to be below the SJVAPCD’s project level thresholds. The SJVAPCD’s project level thresholds are based in part on Section 180 (e) of the Clean Air Act. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.

Notwithstanding, simply exceeding the SJVAPCD’s project level thresholds does not constitute a particular health impact to an individual nearby. The reason for this is that the project level thresholds are in tons/year emitted into the air, whereas health effects are determined based on the concentration of a pollutant in the air at a particular location (e.g., ppm by volume of air or $\mu\text{g}/\text{m}^3$ of air). CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of ppm or $\mu\text{g}/\text{m}^3$ for the applicable emissions.

Therefore, as identified above, operational emissions associated with the proposed project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for NO_x, PM_{2.5}, and PM₁₀. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NO_x, VOCs, and ozone (which is a byproduct of NO_x and VOCs) have been trending downward within the SJVAB even as development has increased over the last several years. Therefore, the proposed project is not expected to result in any Basin-wide increase in health effects.

As noted in the Brief of Amicus Curiae by the SJVAPCD (2015)⁴, the SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts. (See page 4 of the SJVAPCD Brief of Amicus Curiae).

Additionally, the SJVAPCD acknowledges that health effects quantification from ozone, as an example, is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. The SJVAPD indicates that it would take a large amount of additional emissions to result in a modeled increase in ambient ozone levels over the entire region. As such, it is not currently possible to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with a regional scope) due to photochemistry and regional model limitations.

Therefore, the proposed project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a Basin-wide level. Further, the SJVAPCD acknowledges the same:

“...the Air District is simply not equipped to analyze and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area...even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.” (See page 8 of the SJVAPCD Brief of Amicus Curiae.)

The SJVAPCD Brief of Amicus Curiae are incorporated by reference into this environmental documentation for the proposed project.

Current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences. Therefore, implementation of the proposed project is not expected to result in any Basin-wide increase in health effects.

⁴ San Joaquin Valley Unified Air Pollution Control District. 2015. *Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District*. April. Available online at: www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf (accessed June 2021).

Odors

Heavy-duty equipment in the project area during construction would emit odors, primarily from the equipment exhaust. However, the construction activity would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the project, and no mitigation measures are required.

The SJVAPCD addresses odor criteria within the GAMAQI. The district has not established a rule standard regarding odor emissions, rather, the district has a nuisance rule “Any project with the potential to frequently expose members of the public to objectionable odors to be deemed to have a significant impact.” The proposed uses are not anticipated to emit any objectionable odors. Therefore, objectionable odors affecting a substantial number of people would not occur as a result of the project.

GREENHOUSE GAS IMPACTS

This section describes the potential GHG impacts associated with implementation the proposed project.

Generate Greenhouse Gas Emissions

An evaluation of the project’s impacts related to the release of GHG emissions for both construction and operational phases of the project is described below.

Short-Term Greenhouse Gas Emissions

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO₂, CH₄, and N₂O. Furthermore, CH₄ is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SJVAPCD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that construction of the proposed project would generate approximately 538.1 metric tons of CO₂e. Table L lists the annual GHG emissions for each construction phase (details are provided in the CalEEMod output in Appendix A).

Table L: Construction Greenhouse Gas Emissions

Construction Year	Annual Emissions (metric tons per year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2022	225.4	0.1	<0.1	227.3
2023	308.0	0.1	<0.1	310.8
Total Construction Emissions				538.1

Source: Compiled by LSA (June 2021).

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

N₂O = nitrous oxide

Even though the SJVAPCD does not have any adopted GHG emission thresholds, the emission results shown in Table L would only be temporary in nature for the duration construction. Additionally, implementation of the SJVAPCD’s Fugitive Dust Control Measures would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment.

Long-Term Greenhouse Gas Emissions

Long-term GHG emissions are typically generated from mobile sources (e.g., vehicle trips), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions would be generated at off-site utility providers as a result of increased electricity demand generated by the project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Emission estimates for operation of the project were calculated using CalEEMod and are show in Table M. Trip generation rates used in CalEEMod were based on the project’s trip generation estimates, which would generate 840 average daily trips. Additional calculation details are provided in Appendix A.

Table M: Operational Greenhouse Gas Emissions

Emission Type	Annual Emissions (metric tons per year)				
	CO ₂	CH ₄	N ₂ O	CO ₂ e	Percentage of Total
Area Source	39.6	<0.1	<0.1	39.9	4
Energy Source	191.0	<0.1	<0.1	192.4	18
Mobile Source	801.8	<0.1	0.1	816.5	76
Waste Source	4.9	0.3	0.0	12.1	1
Water Source	5.9	0.2	<0.1	11.9	1
Total Operational Emissions				1,072.7	-

Source: LSA (June 2021).

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

N₂O = nitrous oxide

As shown in Table M, the project would generate 1,072.7 metric tons of CO₂e per year. As identified above, the City’s 2014 GHG Reduction Plan and GHG Reduction Plan Update meet the requirements for a Qualified Greenhouse Gas Reduction Strategy. Therefore, the proposed project’s GHG emissions would not be considered a significant impact if the proposed project would be consistent with the City’s GHG Reduction Plans.

The City's 2014 GHG Reduction Plan was prepared to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. The City's 2014 GHG Reduction Plan meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with State CEQA Guidelines Section 15183.5.

The City of Fresno updated its 2014 GHG Reduction Plan in the year 2020 to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. As discussed above, the GHG Reduction Plan Update is being prepared as part of the City's General Plan PEIR Update, which is still in process and has not yet been adopted. However, for informational purposes, this analysis evaluates the proposed project's consistency with the City's 2014 GHG Reduction Plan and GHG Reduction Plan Update.

Both the 2014 GHG Reduction Plan and the GHG Reduction Plan Update require an analysis of GHG emissions to ensure that the change in land use designation would not result in a significant increase in GHG emissions compared to the existing land use designation. As discussed in the Project Description, the proposed project would amend the General Plan and Bullard Community Plan Land Use Map to change the project site from Open Space, Regional Park (14.00 acres), Open Space Multi-Use (1.30 acres) and Public Facility, PG&E Substation (2.28 acres) to Residential, Medium Density (17.38 acres). The proposed project would also amend the Official Zoning Map of the City of Fresno to change the project site from Parks and Recreation/Bluff Protection/Urban Growth Management (PR/BP/UGM, 15.30 acres) and Public Institutional/Bluff Protection/Urban Growth Management (PI/BP/UGM, 2.28 acres) to the Residential Single-Family, Medium Density/Bluff Protection/Urban Growth Management (RS-5/BL/UGM) zone district.

Based on the existing Parks and Recreation/Bluff Protection/Urban Growth Management (PR/BP/UGM) and Public Institutional/Bluff Protection/Urban Growth Management (PI/BP/UGM) designations, this analysis assumes the maximum building of the existing designation would be a 15.30-acre City Park and would develop 102 multi-family residences based on a maximum density of 45 dwelling units per acre under the Public Institutional designation.

Table N provides a comparison of the estimated CO₂e per year from the project's operational activities under the maximum buildout of the existing designation and the proposed project. As provided in Table N the project's estimated maximum buildout of the existing designation annual GHG emissions are approximately 1,087.3 metric tons of CO₂e and the proposed project's estimated annual GHG emissions are approximately 1,072.7 metric tons of CO₂e. Therefore, the proposed project would be less than the estimated project emissions at maximum buildout of the existing designation. As such, in accordance with the City's GHG Reduction Plans, the project's GHG impact is less than significant.

Table N: Comparison of Project and Existing Designation GHG Emissions

Emissions Source	GHG Emissions (Metric Tons CO ₂ e per Year)	
	Existing Designation	Proposed Project
Area Source Emissions	45.7	39.9
Energy Source Emissions	155.0	192.4
Mobile Source Emissions	842.7	816.5
Waste Source Emissions	24.3	12.1
Water Source Emissions	19.7	11.9
Total Operational Emissions	1,087.3	1,072.7
Change in Emissions (Proposed Project – Existing General Plan Designation Buildout)	-14.6	
City of Fresno Criteria	The project would have a less than significant impact on GHG emissions if the proposed project emissions are lower than, equivalent to, or less than the estimated emissions at maximum buildout of the site under the existing land use designation.	

Source: LSA (June 2021).
 CO₂e = carbon dioxide equivalent
 GHG = greenhouse gas

In addition, as required by the 2014 GHG Reduction Plan, the proposed project is required to comply with all applicable General Plan Policies and all measures for ministerial and discretionary projects as identified in the 2014 GHG Reduction Plan. Regulatory Compliance Measure GHG-1 would ensure that the proposed project complies with all measures for ministerial and discretionary projects identified in the 2014 GHG Reduction Plan.

- Regulatory Control Measure GHG-1:** Consistent with the City of Fresno’s 2014 GHG Reduction Plan, the Project Applicant shall incorporate the following design features as part of the proposed project:
- Ensure that the street and pedestrian design complies with the complete streets concepts.
 - Review project against Development Code for mandatory design features required for the project.
 - Install alternative energy generation, such as solar. Review water conservation building and landscape design features for compliance with City water conservation standards.
 - Maintain and enhance connections to regional bikeways and trail system.
 - Complete the latest version of the Fresno Green Residential Checklist, meet the U.S. Green Building Council’s Leadership in Energy and Environmental

Design (LEED) Programs, or qualify for Build It Green's GreenPoint rating system for residential buildings.

With implementation of Regulatory Compliance Measure GHG-1, the proposed project would be consistent with the applicable strategies from the 2014 GHG Reduction Plan. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. The project's Consistency Checklist is included in Appendix B. As shown in the Consistency Checklist, the proposed project would be consistent with the applicable strategies from the GHG Reduction Plan Update. Therefore, with implementation of Regulatory Control Measure GHG-1, the proposed project would be consistent with the City's GHG Reduction Plans and would not generate greenhouse gas emissions that may have a significant effect on the environment.

Consistency with Greenhouse Gas Emissions Reduction Plans

The SJVAPCD has adopted a CCAP, which includes suggested BPS for proposed residential development projects. However, the SJVAPCD's CCAP was adopted in 2009 and was also prepared based on the State's 2020 GHG targets, which are now superseded by State policies and the 2030 GHG targets. As such, absent any other local or regional Climate Action Plan, the proposed project was analyzed for consistency with the State GHG reduction goals. The following discussion evaluates the proposed project according to the goals of AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Executive Order B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32 (CARB 2017). SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by AB 32, Executive Order B-30-15 and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would be required to comply with the latest Title 24 standards of the California Code of Regulations, established by the CEC, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest Title 24 standards of the California Code of Regulations, which includes a variety of different measures, including reduction of wastewater and water use. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Therefore, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in AB 32 and would be consistent with applicable plans and programs designed to reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

CONCLUSION

Based on the analysis presented above, the proposed project would not conflict with or obstruct implementation of SJVAPCD air quality plans. In addition, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The project would also not result in objectionable odors affecting a substantial number of people. In addition, the project would not result in the emission of substantial GHG emissions during construction or operation. Additionally, the proposed project not conflict with the City's GHG Reduction Plans or GHG emissions reductions objectives embodied in AB 32, Executive Order B-30-15, SB 32, and AB 197. Therefore, the proposed project's incremental contribution to cumulative GHG emissions would not be cumulatively considerable.

REFERENCES

California Air Resources Board (CARB). iADAM: Air Quality Data Statistics. Website: <http://www.arb.ca.gov/adam/welcome.html> (accessed June 2021).

———. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Website: <https://ww2.arb.ca.gov/sites/default/files/classic//diesel/documents/rrpfinal.pdf> (accessed June 2021).

———. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

———. 2016. Ambient Air Quality Standards. Website: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf> (accessed June 2021).

———. 2017. *California's 2017 Climate Change Scoping Plan*. November.

———. 2020. *California Greenhouse Gas Emission Inventory – 2020 Edition*. July 11. Website: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf (accessed June 2021).

———. 2021. *GHGs Descriptions & Sources in California*. Website: <http://ww2.arb.ca.gov/ghg-descriptions-sources> (accessed June 2021).

California Building Standards Commission. 2020. CalGreen. January. Website: <https://codes.iccsafe.org/content/CGBC2019P3> (accessed June 2021).

California Department of Conservation. 2009. California Geological Survey. Asbestos. Website: <https://www.conservation.ca.gov/cgs/mineral-hazards/asbestos> (accessed June 2021).

City of Fresno General Plan. 2017. 2015-2023 Housing Element. January. Website: <https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/10/FresnoHERevisedDraftAmendmentPRD012607CLEAN.pdf> (accessed June 2021).

———. 2020. Greenhouse Gas Reduction Plan Update. March. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2020/03/Appendix_G-GHG_Reduction_Plan_Update.pdf (accessed June 2021).

Intergovernmental Panel on Climate Change (IPCC). 2007. *The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC*.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 1994. Mobile Source Emission Reduction Credits. Adopted May 19. Website: <http://www.valleyair.org/rules/currnrules/r2303.pdf> (accessed June 2021).

———. 1996a. Portable Equipment Registration. Amended May 16. Website: (accessed June 2021).

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- . 1996b. Rule 4202. Particulate Matter - Emission Rate. Amended December 17. Website: <https://www.valleyair.org/rules/currnrules/r4202.pdf> (accessed June 2021).
- . 2004. Rule 8011 – Regulation VIII. Amended August 19. Website: <https://www.valleyair.org/rules/currnrules/r8011.pdf> (accessed June 2021).
- . 2007. *2007 PM₁₀ Maintenance Plan and Request for Redesignation*. Available online at: www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf (accessed June 2021).
- . 2009. Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December 17.
- . 2013. *2013 Plan for the Revoked 1-Hour Ozone Standard*. September 19. Website: www.valleyair.org/Air_Quality_Plans/Ozone-OneHourPlan-2013.htm (accessed June 2021).
- . 2015a. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF> (accessed June 2021).
- . 2015b. Rule 9510 - Indirect Source Review. Adopted December 21, 2017. Effective March 21. Website: <https://www.valleyair.org/rules/currnrules/r9510.pdf> (accessed June 2021).
- . 2015c. Final Staff Report Appendix J: GHG Emission Reduction Measures – Development Projects. December 17.
- . 2016. *2016 Plan for the 2008 8-Hour Ozone Standard*. June 16. Website: www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm (accessed June 2021).
- . 2017. Rule 9510. Indirect Source Review (ISR). December 21. Website: <http://www.valleyair.org/rules/currnrules/r9510-a.pdf> (accessed June 2021).
- . 2018. *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards*. November 15. Available online at: www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf%20 (accessed June 2021).
- . Ambient Air Quality Standards and Valley Attainment Status. Website: <http://www.valleyair.org/aqinfo/attainment.htm> (accessed June 2021).
- . *2015 Plan for the 1997 PM_{2.5} Standard*. April 16. Website: www.valleyair.org/Air_Quality_Plans/PM25Plans2015.htm (accessed June 2021).
- United Nations Framework Convention on Climate Change (UNFCCC). 2016. GHG Data from UNFCCC. Website: unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc (accessed June 2021).

U.S. Department of Energy. 2003. *Buildings Energy Data Book*.

United States Environmental Protection Agency (USEPA) 2015. PM and Black Carbon Emission Inventories and Measurement Techniques. Website: <https://www.epa.gov/research-fellowships/particulate-matter-and-black-carbon-emissions-inventories-and-measurement> (accessed June 2021).

———. 2018 - 2020 Air Quality Data. Website: <https://www.epa.gov/outdoor-air-quality-data> (accessed June 2021).

———. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019> (accessed June 2021).

Western Regional Climate Center (WRCC). Fresno Yosemite Monitoring Station (043257). Website: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257> (accessed June 2021).

APPENDIX A

CALEEMOD OUTPUT SHEETS

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Tapestry III Project - San Joaquin Valley Air Basin, Annual

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

**Tapestry III Project
San Joaquin Valley Air Basin, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	89.00	Dwelling Unit	17.58	160,200.00	255

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	4			Operational Year	2023
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 - SAFE Rule applied.

Land Use - 89 DU. Project area 17.58 acres.

Construction Phase - Based on the provided project schedule.

Grading - Total site area 17.58 acres.

Vehicle Trips - 840 ADT and assuming 10% of vehicles would be electric.

Construction Off-road Equipment Mitigation - Construction equipment with a rating of 50 HP or more would utilize, at minimum, Tier 2 engines. Water exposed areas at least twice times daily as fugitive dust control measure.

Mobile Land Use Mitigation -

Area Mitigation - Assuming use of low VOC paints consistent with SJVAPCD Rule 4601 (Architectural Coatings).

Energy Mitigation - Assuming installation of solar panels.

Water Mitigation - Assuming use of water-efficient irrigation systems, consistent with General Plan Policy RC-7-h.

Waste Mitigation - Assuming 75% reduction in waste disposed consistent with the CalRecycle Waste Diversion and Recycling Mandate and General Plan Policies PU-9-b and RC-11-a.

Tapestry III Project - San Joaquin Valley Air Basin, Annual

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

tblConstEquipMitigation	Tier	No Change	Tier 2
tblFleetMix	HHD	0.00	0.03
tblFleetMix	LDA	0.00	0.51
tblFleetMix	LDT1	0.00	0.05
tblFleetMix	LDT2	0.00	0.17
tblFleetMix	LHD1	0.00	0.03
tblFleetMix	LHD2	0.00	7.8800e-003
tblFleetMix	MCY	0.00	0.02
tblFleetMix	MDV	0.00	0.17
tblFleetMix	MH	0.00	3.7190e-003
tblFleetMix	MHD	0.00	0.01
tblFleetMix	OBUS	0.00	6.6400e-004
tblFleetMix	SBUS	0.00	1.5050e-003
tblFleetMix	UBUS	0.00	3.1700e-004
tblVehicleTrips	ST_TR	9.54	8.59
tblVehicleTrips	SU_TR	8.55	7.70
tblVehicleTrips	WD_TR	9.44	8.50
tblWoodstoves	NumberCatalytic	17.58	0.00
tblWoodstoves	NumberNoncatalytic	17.58	0.00

2.0 Emissions Summary

Tapestry III Project - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2022	0.1552	1.4880	1.3362	2.5800e-003	0.2171	0.0698	0.2868	0.1061	0.0650	0.1711	0.0000	225.3666	225.3666	0.0576	1.7500e-003	227.3277
2023	1.6925	1.6719	1.9641	3.5300e-003	0.0353	0.0794	0.1147	9.5500e-003	0.0746	0.0842	0.0000	308.0265	308.0265	0.0651	3.6900e-003	310.7531
Maximum	1.6925	1.6719	1.9641	3.5300e-003	0.2171	0.0794	0.2868	0.1061	0.0746	0.1711	0.0000	308.0265	308.0265	0.0651	3.6900e-003	310.7531

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0897	2.0383	1.5364	2.5800e-003	0.1075	0.0662	0.1737	0.0504	0.0662	0.1166	0.0000	225.3664	225.3664	0.0576	1.7500e-003	227.3275
2023	1.6393	2.7398	2.1617	3.5300e-003	0.0353	0.1025	0.1378	9.5500e-003	0.1025	0.1120	0.0000	308.0262	308.0262	0.0651	3.6900e-003	310.7528
Maximum	1.6393	2.7398	2.1617	3.5300e-003	0.1075	0.1025	0.1737	0.0504	0.1025	0.1166	0.0000	308.0262	308.0262	0.0651	3.6900e-003	310.7528

Tapestry III Project - San Joaquin Valley Air Basin, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	6.42	-51.21	-12.06	0.00	43.43	-13.11	22.43	48.18	-20.83	10.45	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	7-1-2022	9-30-2022	1.0530	1.2991
2	10-1-2022	12-31-2022	0.5948	0.8351
3	1-1-2023	3-31-2023	0.5335	0.8125
4	4-1-2023	6-30-2023	0.5385	0.8206
5	7-1-2023	9-30-2023	0.5445	0.8296
		Highest	1.0530	1.2991

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7998	0.0409	0.6752	2.5000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	39.6349	39.6349	1.7800e-003	7.1000e-004	39.8900
Energy	0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	190.9773	190.9773	0.0129	3.5800e-003	192.3667
Mobile	0.3991	0.7130	3.7680	8.7600e-003	0.8130	7.8800e-003	0.8209	0.2176	7.4000e-003	0.2250	0.0000	817.6688	817.6688	0.0442	0.0462	832.5428
Waste						0.0000	0.0000		0.0000	0.0000	19.4750	0.0000	19.4750	1.1509	0.0000	48.2484
Water						0.0000	0.0000		0.0000	0.0000	1.8397	4.0869	5.9266	0.1896	4.5400e-003	12.0203
Total	1.2117	0.8631	4.4896	9.7100e-003	0.8130	0.0231	0.8361	0.2176	0.0226	0.2402	21.3146	1,052.3680	1,073.6826	1.3994	0.0550	1,125.0683

Tapestry III Project - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.7998	0.0409	0.6752	2.5000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	39.6349	39.6349	1.7800e-003	7.1000e-004	39.8900
Energy	0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	190.9773	190.9773	0.0129	3.5800e-003	192.3667
Mobile	0.3955	0.7017	3.7088	8.5900e-003	0.7967	7.7400e-003	0.8045	0.2133	7.2700e-003	0.2205	0.0000	801.8174	801.8174	0.0437	0.0455	816.4548
Waste						0.0000	0.0000		0.0000	0.0000	4.8687	0.0000	4.8687	0.2877	0.0000	12.0621
Water						0.0000	0.0000		0.0000	0.0000	1.8397	4.0147	5.8544	0.1896	4.5400e-003	11.9474
Total	1.2082	0.8518	4.4304	9.5400e-003	0.7967	0.0229	0.8197	0.2133	0.0225	0.2357	6.7084	1,036.4444	1,043.1528	0.5356	0.0543	1,072.7211

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.29	1.31	1.32	1.75	2.00	0.61	1.96	2.00	0.58	1.87	68.53	1.51	2.84	61.72	1.34	4.65

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2022	7/14/2022	5	10	
2	Grading	Grading	7/15/2022	8/25/2022	5	30	
3	Building Construction	Building Construction	8/26/2022	10/19/2023	5	300	

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

4	Paving	Paving	10/20/2023	11/16/2023	5	20
5	Architectural Coating	Architectural Coating	11/17/2023	12/14/2023	5	20

Acres of Grading (Site Preparation Phase): 17.58

Acres of Grading (Grading Phase): 17.58

Acres of Paving: 0

Residential Indoor: 324,405; Residential Outdoor: 108,135; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; 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

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	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	32.00	10.00	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	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0997	0.0000	0.0997	0.0507	0.0000	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0997	8.0600e-003	0.1077	0.0507	7.4200e-003	0.0581	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549

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

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044
Total	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044

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					0.0448	0.0000	0.0448	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0500e-003	0.1686	0.1148	1.9000e-004		4.7300e-003	4.7300e-003		4.7300e-003	4.7300e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	6.0500e-003	0.1686	0.1148	1.9000e-004	0.0448	4.7300e-003	0.0496	0.0228	4.7300e-003	0.0275	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549

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

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044
Total	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0997	0.0000	0.0997	0.0507	0.0000	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	0.0544	0.5827	0.4356	9.3000e-004	0.0997	0.0245	0.1242	0.0507	0.0226	0.0732	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633

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

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147
Total	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147

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					0.0448	0.0000	0.0448	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0272	0.7686	0.5508	9.3000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	0.0272	0.7686	0.5508	9.3000e-004	0.0448	0.0200	0.0648	0.0228	0.0200	0.0428	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632

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

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147
Total	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0776	0.7105	0.7445	1.2300e-003		0.0368	0.0368		0.0346	0.0346	0.0000	105.4350	105.4350	0.0253	0.0000	106.0665
Total	0.0776	0.7105	0.7445	1.2300e-003		0.0368	0.0368		0.0346	0.0346	0.0000	105.4350	105.4350	0.0253	0.0000	106.0665

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3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8000e-004	0.0250	7.1900e-003	1.0000e-004	3.0200e-003	2.8000e-004	3.2900e-003	8.7000e-004	2.7000e-004	1.1400e-003	0.0000	9.1366	9.1366	6.0000e-005	1.3700e-003	9.5462
Worker	4.9800e-003	3.5100e-003	0.0397	1.0000e-004	0.0116	7.0000e-005	0.0117	3.0900e-003	6.0000e-005	3.1500e-003	0.0000	9.6805	9.6805	3.3000e-004	3.0000e-004	9.7778
Total	5.9600e-003	0.0285	0.0469	2.0000e-004	0.0147	3.5000e-004	0.0150	3.9600e-003	3.3000e-004	4.2900e-003	0.0000	18.8170	18.8170	3.9000e-004	1.6700e-003	19.3240

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	0.0492	1.0717	0.8133	1.2300e-003		0.0411	0.0411		0.0411	0.0411	0.0000	105.4349	105.4349	0.0253	0.0000	106.0663
Total	0.0492	1.0717	0.8133	1.2300e-003		0.0411	0.0411		0.0411	0.0411	0.0000	105.4349	105.4349	0.0253	0.0000	106.0663

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3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8000e-004	0.0250	7.1900e-003	1.0000e-004	3.0200e-003	2.8000e-004	3.2900e-003	8.7000e-004	2.7000e-004	1.1400e-003	0.0000	9.1366	9.1366	6.0000e-005	1.3700e-003	9.5462
Worker	4.9800e-003	3.5100e-003	0.0397	1.0000e-004	0.0116	7.0000e-005	0.0117	3.0900e-003	6.0000e-005	3.1500e-003	0.0000	9.6805	9.6805	3.3000e-004	3.0000e-004	9.7778
Total	5.9600e-003	0.0285	0.0469	2.0000e-004	0.0147	3.5000e-004	0.0150	3.9600e-003	3.3000e-004	4.2900e-003	0.0000	18.8170	18.8170	3.9000e-004	1.6700e-003	19.3240

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1644	1.5032	1.6975	2.8200e-003		0.0731	0.0731		0.0688	0.0688	0.0000	242.2360	242.2360	0.0576	0.0000	243.6766
Total	0.1644	1.5032	1.6975	2.8200e-003		0.0731	0.0731		0.0688	0.0688	0.0000	242.2360	242.2360	0.0576	0.0000	243.6766

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3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0462	0.0142	2.1000e-004	6.9300e-003	3.0000e-004	7.2300e-003	2.0000e-003	2.9000e-004	2.2900e-003	0.0000	20.2016	20.2016	9.0000e-005	3.0200e-003	21.1045
Worker	0.0105	7.0400e-003	0.0832	2.3000e-004	0.0267	1.4000e-004	0.0269	7.1100e-003	1.3000e-004	7.2400e-003	0.0000	21.6492	21.6492	6.7000e-004	6.3000e-004	21.8538
Total	0.0117	0.0532	0.0974	4.4000e-004	0.0337	4.4000e-004	0.0341	9.1100e-003	4.2000e-004	9.5300e-003	0.0000	41.8508	41.8508	7.6000e-004	3.6500e-003	42.9583

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	0.1130	2.4614	1.8678	2.8200e-003		0.0944	0.0944		0.0944	0.0944	0.0000	242.2357	242.2357	0.0576	0.0000	243.6763
Total	0.1130	2.4614	1.8678	2.8200e-003		0.0944	0.0944		0.0944	0.0944	0.0000	242.2357	242.2357	0.0576	0.0000	243.6763

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3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0462	0.0142	2.1000e-004	6.9300e-003	3.0000e-004	7.2300e-003	2.0000e-003	2.9000e-004	2.2900e-003	0.0000	20.2016	20.2016	9.0000e-005	3.0200e-003	21.1045
Worker	0.0105	7.0400e-003	0.0832	2.3000e-004	0.0267	1.4000e-004	0.0269	7.1100e-003	1.3000e-004	7.2400e-003	0.0000	21.6492	21.6492	6.7000e-004	6.3000e-004	21.8538
Total	0.0117	0.0532	0.0974	4.4000e-004	0.0337	4.4000e-004	0.0341	9.1100e-003	4.2000e-004	9.5300e-003	0.0000	41.8508	41.8508	7.6000e-004	3.6500e-003	42.9583

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888

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3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803
Total	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803

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	9.3100e-003	0.2012	0.1730	2.3000e-004		6.6700e-003	6.6700e-003		6.6700e-003	6.6700e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.3100e-003	0.2012	0.1730	2.3000e-004		6.6700e-003	6.6700e-003		6.6700e-003	6.6700e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888

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3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803
Total	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5036					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	1.5055	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571

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3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.4900e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3884	0.3884	1.0000e-005	1.0000e-005	0.3921
Total	1.9000e-004	1.3000e-004	1.4900e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3884	0.3884	1.0000e-005	1.0000e-005	0.3921

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5036					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1400e-003	0.0235	0.0183	3.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	1.5048	0.0235	0.0183	3.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571

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3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.4900e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3884	0.3884	1.0000e-005	1.0000e-005	0.3921
Total	1.9000e-004	1.3000e-004	1.4900e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3884	0.3884	1.0000e-005	1.0000e-005	0.3921

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3955	0.7017	3.7088	8.5900e-003	0.7967	7.7400e-003	0.8045	0.2133	7.2700e-003	0.2205	0.0000	801.8174	801.8174	0.0437	0.0455	816.4548
Unmitigated	0.3991	0.7130	3.7680	8.7600e-003	0.8130	7.8800e-003	0.8209	0.2176	7.4000e-003	0.2250	0.0000	817.6688	817.6688	0.0442	0.0462	832.5428

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	756.50	764.51	685.30	2,166,039	2,122,719
Total	756.50	764.51	685.30	2,166,039	2,122,719

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.505022	0.051937	0.170337	0.165963	0.030143	0.007880	0.013096	0.025463	0.000664	0.000317	0.023954	0.001505	0.003719

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	64.5036	64.5036	0.0104	1.2600e-003	65.1414
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	64.5036	64.5036	0.0104	1.2600e-003	65.1414
NaturalGas Mitigated	0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	126.4738	126.4738	2.4200e-003	2.3200e-003	127.2254
NaturalGas Unmitigated	0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	126.4738	126.4738	2.4200e-003	2.3200e-003	127.2254

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.37003e+006	0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	126.4738	126.4738	2.4200e-003	2.3200e-003	127.2254
Total		0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	126.4738	126.4738	2.4200e-003	2.3200e-003	127.2254

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.37003e+006	0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	126.4738	126.4738	2.4200e-003	2.3200e-003	127.2254
Total		0.0128	0.1092	0.0465	7.0000e-004		8.8300e-003	8.8300e-003		8.8300e-003	8.8300e-003	0.0000	126.4738	126.4738	2.4200e-003	2.3200e-003	127.2254

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	697157	64.5036	0.0104	1.2600e-003	65.1414
Total		64.5036	0.0104	1.2600e-003	65.1414

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	697157	64.5036	0.0104	1.2600e-003	65.1414
Total		64.5036	0.0104	1.2600e-003	65.1414

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7998	0.0409	0.6752	2.5000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	39.6349	39.6349	1.7800e-003	7.1000e-004	39.8900
Unmitigated	0.7998	0.0409	0.6752	2.5000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	39.6349	39.6349	1.7800e-003	7.1000e-004	39.8900

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.9000e-003	0.0333	0.0142	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	38.5555	38.5555	7.4000e-004	7.1000e-004	38.7846
Landscaping	0.0199	7.6200e-003	0.6610	3.0000e-005		3.6600e-003	3.6600e-003		3.6600e-003	3.6600e-003	0.0000	1.0795	1.0795	1.0400e-003	0.0000	1.1054
Total	0.7998	0.0409	0.6752	2.4000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	39.6349	39.6349	1.7800e-003	7.1000e-004	39.8900

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.1504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.9000e-003	0.0333	0.0142	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	38.5555	38.5555	7.4000e-004	7.1000e-004	38.7846
Landscaping	0.0199	7.6200e-003	0.6610	3.0000e-005		3.6600e-003	3.6600e-003		3.6600e-003	3.6600e-003	0.0000	1.0795	1.0795	1.0400e-003	0.0000	1.1054
Total	0.7998	0.0409	0.6752	2.4000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	39.6349	39.6349	1.7800e-003	7.1000e-004	39.8900

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.8544	0.1896	4.5400e-003	11.9474
Unmitigated	5.9266	0.1896	4.5400e-003	12.0203

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	5.79871 / 3.65571	5.9266	0.1896	4.5400e-003	12.0203
Total		5.9266	0.1896	4.5400e-003	12.0203

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	5.79871 / 3.43271	5.8544	0.1896	4.5400e-003	11.9474
Total		5.8544	0.1896	4.5400e-003	11.9474

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.8687	0.2877	0.0000	12.0621
Unmitigated	19.4750	1.1509	0.0000	48.2484

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	95.94	19.4750	1.1509	0.0000	48.2484
Total		19.4750	1.1509	0.0000	48.2484

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	23.985	4.8687	0.2877	0.0000	12.0621
Total		4.8687	0.2877	0.0000	12.0621

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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

**Tapestry III Project - Existing Designation
San Joaquin Valley Air Basin, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	15.30	Acre	15.30	666,468.00	0
Condo/Townhouse	102.00	Dwelling Unit	2.28	102,000.00	292

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	4			Operational Year	2023
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 - Operational run only

Land Use - This analysis assumes the maximum building of the existing designation would be a 14-acre City Park and would develop 102 multi-family residences based on a maximum density of 45 dwelling units per acre under the Public Institutional designation.

Energy Use - Using Historical Data

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	0.00	150.00
tblEnergyUse	T24E	229.45	229.45
tblEnergyUse	T24NG	17,767.32	17,767.32
tblFleetMix	HHD	0.00	0.03
tblFleetMix	HHD	0.00	0.03
tblFleetMix	LDA	0.00	0.51

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

tblFleetMix	LDA	0.00	0.51
tblFleetMix	LDT1	0.00	0.05
tblFleetMix	LDT1	0.00	0.05
tblFleetMix	LDT2	0.00	0.17
tblFleetMix	LDT2	0.00	0.17
tblFleetMix	LHD1	0.00	0.03
tblFleetMix	LHD1	0.00	0.03
tblFleetMix	LHD2	0.00	7.8800e-003
tblFleetMix	LHD2	0.00	7.8800e-003
tblFleetMix	MCY	0.00	0.02
tblFleetMix	MCY	0.00	0.02
tblFleetMix	MDV	0.00	0.17
tblFleetMix	MDV	0.00	0.17
tblFleetMix	MH	0.00	3.7190e-003
tblFleetMix	MH	0.00	3.7190e-003
tblFleetMix	MHD	0.00	0.01
tblFleetMix	MHD	0.00	0.01
tblFleetMix	OBUS	0.00	6.6400e-004
tblFleetMix	OBUS	0.00	6.6400e-004
tblFleetMix	SBUS	0.00	1.5050e-003
tblFleetMix	SBUS	0.00	1.5050e-003
tblFleetMix	UBUS	0.00	3.1700e-004
tblFleetMix	UBUS	0.00	3.1700e-004
tblProjectCharacteristics	CH4IntensityFactor	0	0.033
tblProjectCharacteristics	CO2IntensityFactor	0	203.98
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblProjectCharacteristics	PrecipitationFrequency	0	45
tblProjectCharacteristics	WindSpeed	0	2.7
tblWoodstoves	NumberCatalytic	2.28	0.00

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

tblWoodstoves	NumberNoncatalytic	2.28	0.00
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2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2022	0.2111	1.8250	1.7447	4.3000e-003	0.3691	0.0769	0.4460	0.1413	0.0716	0.2128	0.0000	387.2248	387.2248	0.0646	0.0155	393.4619
2023	0.8618	2.4498	3.2211	8.9600e-003	0.4186	0.0913	0.5098	0.1134	0.0858	0.1992	0.0000	817.6356	817.6356	0.0791	0.0475	833.7546
2024	0.4326	6.0800e-003	0.0155	3.0000e-005	2.5500e-003	2.9000e-004	2.8400e-003	6.8000e-004	2.9000e-004	9.6000e-004	0.0000	3.1656	3.1656	1.2000e-004	6.0000e-005	3.1852
Maximum	0.8618	2.4498	3.2211	8.9600e-003	0.4186	0.0913	0.5098	0.1413	0.0858	0.2128	0.0000	817.6356	817.6356	0.0791	0.0475	833.7546

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2111	1.8250	1.7447	4.3000e-003	0.3691	0.0769	0.4460	0.1413	0.0716	0.2128	0.0000	387.2245	387.2245	0.0646	0.0155	393.4616
2023	0.8618	2.4498	3.2211	8.9600e-003	0.4186	0.0913	0.5098	0.1134	0.0858	0.1992	0.0000	817.6352	817.6352	0.0791	0.0475	833.7543
2024	0.4326	6.0800e-003	0.0155	3.0000e-005	2.5500e-003	2.9000e-004	2.8400e-003	6.8000e-004	2.9000e-004	9.6000e-004	0.0000	3.1656	3.1656	1.2000e-004	6.0000e-005	3.1852
Maximum	0.8618	2.4498	3.2211	8.9600e-003	0.4186	0.0913	0.5098	0.1413	0.0858	0.2128	0.0000	817.6352	817.6352	0.0791	0.0475	833.7543

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	7-1-2022	9-30-2022	1.1797	1.1797
2	10-1-2022	12-31-2022	0.8703	0.8703
3	1-1-2023	3-31-2023	0.7547	0.7547
4	4-1-2023	6-30-2023	0.7520	0.7520
5	7-1-2023	9-30-2023	0.7603	0.7603
6	10-1-2023	12-31-2023	1.0999	1.0999
7	1-1-2024	3-31-2024	0.3830	0.3830
		Highest	1.1797	1.1797

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.5277	0.0469	0.7739	2.8000e-004		7.2800e-003	7.2800e-003		7.2800e-003	7.2800e-003	0.0000	45.4246	45.4246	2.0400e-003	8.1000e-004	45.7169
Energy	0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	153.8853	153.8853	8.8100e-003	2.8700e-003	154.9620
Mobile	0.4052	0.7224	3.8180	8.8600e-003	0.8227	7.9800e-003	0.8307	0.2202	7.4900e-003	0.2277	0.0000	827.5863	827.5863	0.0448	0.0468	842.6567
Waste						0.0000	0.0000		0.0000	0.0000	9.7923	0.0000	9.7923	0.5787	0.0000	24.2600
Water						0.0000	0.0000		0.0000	0.0000	2.1084	10.5873	12.6957	0.2183	5.3200e-003	19.7379
Total	0.9443	0.8667	4.6333	9.7600e-003	0.8227	0.0231	0.8458	0.2202	0.0226	0.2429	11.9007	1,037.4834	1,049.3841	0.8527	0.0558	1,087.3335

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.5277	0.0469	0.7739	2.8000e-004		7.2800e-003	7.2800e-003		7.2800e-003	7.2800e-003	0.0000	45.4246	45.4246	2.0400e-003	8.1000e-004	45.7169
Energy	0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	153.8853	153.8853	8.8100e-003	2.8700e-003	154.9620
Mobile	0.4052	0.7224	3.8180	8.8600e-003	0.8227	7.9800e-003	0.8307	0.2202	7.4900e-003	0.2277	0.0000	827.5863	827.5863	0.0448	0.0468	842.6567
Waste						0.0000	0.0000		0.0000	0.0000	9.7923	0.0000	9.7923	0.5787	0.0000	24.2600
Water						0.0000	0.0000		0.0000	0.0000	2.1084	10.5873	12.6957	0.2183	5.3200e-003	19.7379
Total	0.9443	0.8667	4.6333	9.7600e-003	0.8227	0.0231	0.8458	0.2202	0.0226	0.2429	11.9007	1,037.4834	1,049.3841	0.8527	0.0558	1,087.3335

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	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	Demolition	Demolition	7/1/2022	7/28/2022	5	20	
2	Site Preparation	Site Preparation	7/29/2022	8/11/2022	5	10	
3	Grading	Grading	8/12/2022	9/22/2022	5	30	

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

4	Building Construction	Building Construction	9/23/2022	11/16/2023	5	300
5	Paving	Paving	11/17/2023	12/14/2023	5	20
6	Architectural Coating	Architectural Coating	12/15/2023	1/11/2024	5	20

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 206,550; Residential Outdoor: 68,850; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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

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Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	353.00	120.00	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	71.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289

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

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.6000e-004	4.0900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9973	0.9973	3.0000e-005	3.0000e-005	1.0073
Total	5.1000e-004	3.6000e-004	4.0900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9973	0.9973	3.0000e-005	3.0000e-005	1.0073

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	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289

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3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.6000e-004	4.0900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9973	0.9973	3.0000e-005	3.0000e-005	1.0073
Total	5.1000e-004	3.6000e-004	4.0900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9973	0.9973	3.0000e-005	3.0000e-005	1.0073

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0983	8.0600e-003	0.1064	0.0505	7.4200e-003	0.0579	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549

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3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044
Total	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0983	8.0600e-003	0.1064	0.0505	7.4200e-003	0.0579	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549

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3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044
Total	3.1000e-004	2.2000e-004	2.4500e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5984	0.5984	2.0000e-005	2.0000e-005	0.6044

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	0.0544	0.5827	0.4356	9.3000e-004	0.1381	0.0245	0.1626	0.0548	0.0226	0.0774	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633

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3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147
Total	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147

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					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	0.0544	0.5827	0.4356	9.3000e-004	0.1381	0.0245	0.1626	0.0548	0.0226	0.0774	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147
Total	1.0300e-003	7.2000e-004	8.1800e-003	2.0000e-005	2.4000e-003	1.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9946	1.9946	7.0000e-005	6.0000e-005	2.0147

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0606	0.5544	0.5809	9.6000e-004		0.0287	0.0287		0.0270	0.0270	0.0000	82.2625	82.2625	0.0197	0.0000	82.7552
Total	0.0606	0.5544	0.5809	9.6000e-004		0.0287	0.0287		0.0270	0.0270	0.0000	82.2625	82.2625	0.0197	0.0000	82.7552

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2200e-003	0.2339	0.0673	8.9000e-004	0.0283	2.6000e-003	0.0309	8.1600e-003	2.4900e-003	0.0107	0.0000	85.5422	85.5422	5.5000e-004	0.0128	89.3777
Worker	0.0429	0.0302	0.3417	9.0000e-004	0.1002	5.6000e-004	0.1008	0.0266	5.2000e-004	0.0272	0.0000	83.3180	83.3180	2.8200e-003	2.5700e-003	84.1555
Total	0.0521	0.2641	0.4090	1.7900e-003	0.1284	3.1600e-003	0.1316	0.0348	3.0100e-003	0.0378	0.0000	168.8602	168.8602	3.3700e-003	0.0154	173.5332

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	0.0606	0.5544	0.5809	9.6000e-004		0.0287	0.0287		0.0270	0.0270	0.0000	82.2624	82.2624	0.0197	0.0000	82.7551
Total	0.0606	0.5544	0.5809	9.6000e-004		0.0287	0.0287		0.0270	0.0270	0.0000	82.2624	82.2624	0.0197	0.0000	82.7551

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3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2200e-003	0.2339	0.0673	8.9000e-004	0.0283	2.6000e-003	0.0309	8.1600e-003	2.4900e-003	0.0107	0.0000	85.5422	85.5422	5.5000e-004	0.0128	89.3777
Worker	0.0429	0.0302	0.3417	9.0000e-004	0.1002	5.6000e-004	0.1008	0.0266	5.2000e-004	0.0272	0.0000	83.3180	83.3180	2.8200e-003	2.5700e-003	84.1555
Total	0.0521	0.2641	0.4090	1.7900e-003	0.1284	3.1600e-003	0.1316	0.0348	3.0100e-003	0.0378	0.0000	168.8602	168.8602	3.3700e-003	0.0154	173.5332

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1801	1.6471	1.8599	3.0900e-003		0.0801	0.0801		0.0754	0.0754	0.0000	265.4164	265.4164	0.0631	0.0000	266.9949
Total	0.1801	1.6471	1.8599	3.0900e-003		0.0801	0.0801		0.0754	0.0754	0.0000	265.4164	265.4164	0.0631	0.0000	266.9949

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3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.6073	0.1860	2.7700e-003	0.0911	3.9300e-003	0.0950	0.0263	3.7600e-003	0.0301	0.0000	265.6171	265.6171	1.1300e-003	0.0397	277.4884
Worker	0.1269	0.0852	1.0059	2.8200e-003	0.3231	1.7100e-003	0.3249	0.0859	1.5800e-003	0.0875	0.0000	261.6717	261.6717	8.1400e-003	7.6100e-003	264.1439
Total	0.1420	0.6925	1.1919	5.5900e-003	0.4142	5.6400e-003	0.4199	0.1122	5.3400e-003	0.1175	0.0000	527.2888	527.2888	9.2700e-003	0.0474	541.6323

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	0.1801	1.6471	1.8599	3.0900e-003		0.0801	0.0801		0.0754	0.0754	0.0000	265.4161	265.4161	0.0631	0.0000	266.9946
Total	0.1801	1.6471	1.8599	3.0900e-003		0.0801	0.0801		0.0754	0.0754	0.0000	265.4161	265.4161	0.0631	0.0000	266.9946

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3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.6073	0.1860	2.7700e-003	0.0911	3.9300e-003	0.0950	0.0263	3.7600e-003	0.0301	0.0000	265.6171	265.6171	1.1300e-003	0.0397	277.4884
Worker	0.1269	0.0852	1.0059	2.8200e-003	0.3231	1.7100e-003	0.3249	0.0859	1.5800e-003	0.0875	0.0000	261.6717	261.6717	8.1400e-003	7.6100e-003	264.1439
Total	0.1420	0.6925	1.1919	5.5900e-003	0.4142	5.6400e-003	0.4199	0.1122	5.3400e-003	0.1175	0.0000	527.2888	527.2888	9.2700e-003	0.0474	541.6323

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888

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

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803
Total	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888

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3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803
Total	4.7000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9711	0.9711	3.0000e-005	3.0000e-005	0.9803

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	7.1700e-003	9.9600e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4064
Total	0.5276	7.1700e-003	9.9600e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4064

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3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	8.2000e-004	9.7200e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.5281	2.5281	8.0000e-005	7.0000e-005	2.5520
Total	1.2300e-003	8.2000e-004	9.7200e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.5281	2.5281	8.0000e-005	7.0000e-005	2.5520

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0500e-003	7.1700e-003	9.9600e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4064
Total	0.5276	7.1700e-003	9.9600e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4064

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3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	8.2000e-004	9.7200e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.5281	2.5281	8.0000e-005	7.0000e-005	2.5520
Total	1.2300e-003	8.2000e-004	9.7200e-003	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.5281	2.5281	8.0000e-005	7.0000e-005	2.5520

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4308					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	0.4316	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506

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3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	5.9000e-004	7.3500e-003	2.0000e-005	2.5500e-003	1.0000e-005	2.5700e-003	6.8000e-004	1.0000e-005	6.9000e-004	0.0000	2.0166	2.0166	6.0000e-005	6.0000e-005	2.0346
Total	9.2000e-004	5.9000e-004	7.3500e-003	2.0000e-005	2.5500e-003	1.0000e-005	2.5700e-003	6.8000e-004	1.0000e-005	6.9000e-004	0.0000	2.0166	2.0166	6.0000e-005	6.0000e-005	2.0346

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4308					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506
Total	0.4316	5.4800e-003	8.1500e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	1.1490	1.1490	6.0000e-005	0.0000	1.1506

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3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	5.9000e-004	7.3500e-003	2.0000e-005	2.5500e-003	1.0000e-005	2.5700e-003	6.8000e-004	1.0000e-005	6.9000e-004	0.0000	2.0166	2.0166	6.0000e-005	6.0000e-005	2.0346
Total	9.2000e-004	5.9000e-004	7.3500e-003	2.0000e-005	2.5500e-003	1.0000e-005	2.5700e-003	6.8000e-004	1.0000e-005	6.9000e-004	0.0000	2.0166	2.0166	6.0000e-005	6.0000e-005	2.0346

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4052	0.7224	3.8180	8.8600e-003	0.8227	7.9800e-003	0.8307	0.2202	7.4900e-003	0.2277	0.0000	827.5863	827.5863	0.0448	0.0468	842.6567
Unmitigated	0.4052	0.7224	3.8180	8.8600e-003	0.8227	7.9800e-003	0.8307	0.2202	7.4900e-003	0.2277	0.0000	827.5863	827.5863	0.0448	0.0468	842.6567

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	11.93	29.99	33.51	37,563	37,563
Condo/Townhouse	746.64	830.28	640.56	2,154,336	2,154,336
Total	758.57	860.27	674.07	2,191,899	2,191,899

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.505022	0.051937	0.170337	0.165963	0.030143	0.007880	0.013096	0.025463	0.000664	0.000317	0.023954	0.001505	0.003719
Condo/Townhouse	0.505022	0.051937	0.170337	0.165963	0.030143	0.007880	0.013096	0.025463	0.000664	0.000317	0.023954	0.001505	0.003719

5.0 Energy Detail

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

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	41.1132	41.1132	6.6500e-003	8.1000e-004	41.5198
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	41.1132	41.1132	6.6500e-003	8.1000e-004	41.5198
NaturalGas Mitigated	0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	112.7721	112.7721	2.1600e-003	2.0700e-003	113.4422
NaturalGas Unmitigated	0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	112.7721	112.7721	2.1600e-003	2.0700e-003	113.4422

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.11327e+006	0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	112.7721	112.7721	2.1600e-003	2.0700e-003	113.4422
Total		0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	112.7721	112.7721	2.1600e-003	2.0700e-003	113.4422

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.11327e+006	0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	112.7721	112.7721	2.1600e-003	2.0700e-003	113.4422
Total		0.0114	0.0974	0.0414	6.2000e-004		7.8700e-003	7.8700e-003		7.8700e-003	7.8700e-003	0.0000	112.7721	112.7721	2.1600e-003	2.0700e-003	113.4422

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	444353	41.1132	6.6500e-003	8.1000e-004	41.5198
Total		41.1132	6.6500e-003	8.1000e-004	41.5198

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	444353	41.1132	6.6500e-003	8.1000e-004	41.5198
Total		41.1132	6.6500e-003	8.1000e-004	41.5198

6.0 Area Detail

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

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5277	0.0469	0.7739	2.8000e-004		7.2800e-003	7.2800e-003		7.2800e-003	7.2800e-003	0.0000	45.4246	45.4246	2.0400e-003	8.1000e-004	45.7169
Unmitigated	0.5277	0.0469	0.7739	2.8000e-004		7.2800e-003	7.2800e-003		7.2800e-003	7.2800e-003	0.0000	45.4246	45.4246	2.0400e-003	8.1000e-004	45.7169

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0957					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4046					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.4600e-003	0.0382	0.0162	2.4000e-004		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003	0.0000	44.1872	44.1872	8.5000e-004	8.1000e-004	44.4497
Landscaping	0.0228	8.7300e-003	0.7577	4.0000e-005		4.1900e-003	4.1900e-003		4.1900e-003	4.1900e-003	0.0000	1.2374	1.2374	1.1900e-003	0.0000	1.2672
Total	0.5277	0.0469	0.7739	2.8000e-004		7.2700e-003	7.2700e-003		7.2700e-003	7.2700e-003	0.0000	45.4246	45.4246	2.0400e-003	8.1000e-004	45.7169

Tapestry III Project - Existing Designation - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0957					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4046					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.4600e-003	0.0382	0.0162	2.4000e-004		3.0800e-003	3.0800e-003		3.0800e-003	3.0800e-003	0.0000	44.1872	44.1872	8.5000e-004	8.1000e-004	44.4497
Landscaping	0.0228	8.7300e-003	0.7577	4.0000e-005		4.1900e-003	4.1900e-003		4.1900e-003	4.1900e-003	0.0000	1.2374	1.2374	1.1900e-003	0.0000	1.2672
Total	0.5277	0.0469	0.7739	2.8000e-004		7.2700e-003	7.2700e-003		7.2700e-003	7.2700e-003	0.0000	45.4246	45.4246	2.0400e-003	8.1000e-004	45.7169

7.0 Water Detail

7.1 Mitigation Measures Water

Tapestry III Project - Existing Designation - San Joaquin Valley Air Basin, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.6957	0.2183	5.3200e-003	19.7379
Unmitigated	12.6957	0.2183	5.3200e-003	19.7379

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 18.2297	5.9034	9.6000e-004	1.2000e-004	5.9617
Condo/Townhouse	6.64571 / 4.18969	6.7923	0.2173	5.2100e-003	13.7761
Total		12.6957	0.2183	5.3300e-003	19.7379

Tapestry III Project - Existing Designation - San Joaquin Valley Air Basin, Annual

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 18.2297	5.9034	9.6000e-004	1.2000e-004	5.9617
Condo/Townhouse	6.64571 / 4.18969	6.7923	0.2173	5.2100e-003	13.7761
Total		12.6957	0.2183	5.3300e-003	19.7379

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.7923	0.5787	0.0000	24.2600
Unmitigated	9.7923	0.5787	0.0000	24.2600

Tapestry III Project - Existing Designation - San Joaquin Valley Air Basin, Annual

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.32	0.2680	0.0158	0.0000	0.6638
Condo/Townhouse	46.92	9.5243	0.5629	0.0000	23.5961
Total		9.7923	0.5787	0.0000	24.2600

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.32	0.2680	0.0158	0.0000	0.6638
Condo/Townhouse	46.92	9.5243	0.5629	0.0000	23.5961
Total		9.7923	0.5787	0.0000	24.2600

9.0 Operational Offroad

Tapestry III Project - Existing Designation - San Joaquin Valley Air Basin, Annual

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

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

GHG REDUCTION PLAN UPDATE CONSISTENCY CHECKLIST

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1. Project Information	
Contact Information	
Project No./Name:	Tapestry III Tract 6195
Address:	APNs 504-050-02, 504-130-12
Applicant Name/Co:	Century Communities
Contact Information:	7815 North Palm Avenue, Suite 101
	Fresno, California 93711
	559.439.4464
Project Information	
1. What is the Site acreage of the Project?	17.58
2. Identify all Applicable Proposed Land uses:	Residential Single-Family, Medium Density
a. Residential (Indicate number of single-family units)	89 Units
b. Residential (Indicate number of multi-family units)	
c. Commercial (total square footage)	
d. Industrial (total square footage)	
e. Other (describe)	Out lots would be dedicated to the City for open space, parking, and emergency access.
3. Is the project or a portion of the project located in a transit priority area? (Y/N)	No
4. Provide a brief description of the project proposed:	The proposed project would subdivide the project site in an 89-lot conventional single-family residential development at a density of approximately 5.05 dwelling units/acre. Out lots would be dedicated to the City for open space, trails, parking, flood control, and emergency vehicle access purposes. The proposed project would amend the General Plan and Bullard Community Plan Land Use Map to change the project site from Open Space, Regional Park (14.00 acres), Open Space Multi-Use (1.30 acres), and Public Facility, PG&E Substation (2.28 acres) to Residential, Medium Density (17.38 acres). The proposed project would also amend the Official Zoning Map of the City of Fresno to change the project site from Parks and Recreation/Bluff Protection/Urban Growth Management (PR/BP/UGM, 15.30 acres) and Public Institutional/Bluff Protection/Urban Growth Management (PI/BP/UGM, 2.28 acres) to a Residential Single-Family, Medium Density/Bluff Protection/Urban Growth Management (RS-5/BL/UGM) zone district.

2. Determining Land Use Consistency		
Checklist Item		
<p>As the first step in determining the consistency with the GHG Reduction Plan for discretionary development projects, this section allows the City to determine the project’s consistency with the land use assumptions used in the GHG Reduction Plan.</p>		
	Yes	No
<p>1. Is the proposed project consistent with the approved General Plan, Specific Plan, and Community Plan planned land use and zoning designations?</p> <p>If the answer is Yes, then proceed to the GHG Plan Update Consistency Checklist.</p> <p>If the answer is No, then proceed to question 2.</p>		X
<p>2. If the proposed project is not consistent with the approved planned land use and zoning designation(s), then provide estimated GHG project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation with the maximum buildout of the proposed designation.</p> <p>If the estimated project emissions at maximum buildout of the proposed designation(s) is equivalent to or less than the estimated project emissions at maximum buildout of the existing designation(s), then in accordance with the City’s Significance Determination Thresholds, the project’s GHG impact is less than significant. If there is a proposed development project associated with this plan amendment and or rezone then complete the GHG Plan Update Consistency Checklist and incorporate applicable measures, otherwise there is no further step required.</p> <p>If the estimated project emission at maximum buildout of the proposed designation(s) is greater than the estimated project emissions at maximum buildout of the existing designation(s), then in accordance with the City’s Significance Determination Thresholds, the project’s GHG impact is significant. The project must either show consistency with applicable GP objectives and policies (provide applicable GP objectives and policies here) or provide analysis and measures to incorporate into the project to bring the GHG emissions to a level that is less than or equal to the estimated project emission at maximum buildout of the existing designation(s) unless the decision-maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. If there is a proposed development project associated with this plan amendment and or rezone then complete the GHG Plan Update Consistency Checklist and incorporate applicable measures, otherwise there is no further step required.</p>	<p>As discussed above, the proposed project would require a General Plan Amendment and rezone. The proposed project's emissions were estimated using the California Emissions Estimator Model, which estimates that the proposed project would result in approximately 1,072.7 metric tons of CO2e per year. The maximum buildout of the existing Parks and Recreation/Bluff Protection/Urban Growth Management (PR/BP/UGM) and Public Institutional/Bluff Protection/Urban Growth Management (PI/BP/UGM) designations would result in approximately 1,087.3 metric tons of CO2e per year. Therefore, the proposed project would result in less emissions than the existing designation.</p>	

3. Greenhouse Gas (GHG) Reduction Plan Update - CEQA Project Consistency Checklist

GHG Plan Update consistency review involves the evaluation of project consistency with the applicable strategies of the GHG Plan Update. This checklist was developed based on the key local GHG reduction strategies and actions identified in the GHG Plan Update that are applicable to new development projects.

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Yes	No	Not Applicable (NA)	Explanation
Strategy 1: Land Use and Transportation Demand Management				
Does the project provide complete streets for all roadway improvements? (Complete streets are roadways that include curb, gutter, and sidewalks on both sides of the street. For local and collector streets, adequate roadway width is provided to accommodate two-way vehicle traffic and bicycles and arterial streets include striping for bike lanes.)	X			The project would provide complete streets for all roadway improvements.
Is the project a large employer (over 100 employees) and if so will the project comply with SJVAPCD Rule 9410 and provide an Employer Trip Reduction Implementation Plan that will include trip reduction methods such as increasing transit use, carpooling, vanpooling, bicycling, or other measures? See the SJVAPCD website link for details: https://www.valleyair.org/rules/currentrules/r9410.pdf			X	The project would not have over 100 employees.
Strategy 2: Energy Conservation and Renewable Energy				
Does the project meet the mandatory energy efficiency measures of the California Green Building Standards Code (CalGreen)? If the Project exceeds mandatory CalGreen measures then provide the tier number that the project will meet in the explanation.	X			The project would meet the latest CalGreen standards.
For commercial projects, does it achieve net zero electricity? Mark NA if project will be permitted before 2030. Mark Yes if voluntary. Add source and capacity in explanation.			X	The project is not a commercial project.
Does the project include onsite energy generation using renewable energy? If no, mark NA. If yes, provide source and capacity in the explanation.	X			The proposed project would include solar as required by Title 24.
Strategy 3: Water Conservation				
Does the project meet the mandatory indoor water use measures of the CalGreen Code? If the project exceeds CalGreen Code mandatory measures provide methods in excess of requirements in the explanation. Examples may include water pipe insulation, pressure reducing valves, energy efficient appliances such as Energy Star Certified dishwashers, washing machines, dual flush toilets, point of use and/or tankless water heaters. Provide the measures, devices, or systems that the project will include in the explanation.	X			The project would meet the latest CalGreen standards.
Does the project meet the mandatory outdoor water use measures of the CalGreen Code? If the project exceeds CalGreen Code mandatory measures provide methods in excess of requirements in the explanation? Examples may include any outdoor water conservation measures such as; drought tolerant landscaping plants, compliant irrigation systems, xeriscapes etc. Provide the conservation measure that the project will include in the explanation.	X			The project would meet the latest CalGreen standards.
Strategy 4: Solid Waste Diversion and Recycling				
When completed will the project implement techniques for solid waste diversion and reduction (i.e., recycling, composting, waste to energy technology, waste separation)?	X			The project would be consistent with the CalRecycle Waste Diversion and Recycling Mandate.
During construction will the project recycle construction and demolition waste?	X			

Appendix C

Geotechnical Report

**GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
TAPESTRY III
N. THIELE AVENUE AT OAK AVENUE
FRESNO, CALIFORNIA**

**PROJECT NO. 012-17145
AUGUST 7, 2017**

Prepared for:

**MR. DENNIS GAAB
BENCHMARK COMMUNITIES
7815 N. PALM AVENUE, SUITE 101
FRESNO, CALIFORNIA 93711**

Prepared by:

**KRAZAN & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING DIVISION
215 W. DAKOTA AVENUE
CLOVIS, CALIFORNIA 93612
(559) 348-2200**

August 7, 2017

Project No. 012-17145

Mr. Dennis Gaab
Benchmark Communities
7815 N. Palm Avenue, Suite 101
Fresno, California 93711

**RE: Geotechnical Engineering Investigation
Proposed Residential Development - Tapestry III
N. Thiele Avenue at Oak Avenue
Fresno, California**

Dear Mr. Gaab

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.



Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

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August 7, 2017

Project No. 012-17145

**GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT - TAPESTRY III
N. THIELE AVENUE AT OAK AVENUE
FRESNO, CALIFORNIA**

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Residential Development identified as Tapestry III to be located just west of Thiele Avenue at Oak Avenue in Fresno, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory-testing phase of this study; along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated July 11, 2017 (KA Proposal No. P465-17) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 8 borings to depths ranging from approximately 10 to 40 feet for evaluation of the subsurface conditions at the project site.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

-
- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.
 - Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood that development will include the construction of single-family residential lots. It is anticipated the buildings will be single- or two-story wood-framed structures supported on conventional foundations utilizing concrete slab-on-grade. On-site paved areas and landscaping are also planned for the development of the project.

In the event, these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The site is roughly rectangular in shape and encompasses approximately 17.58 acres. The site is located just west of N. Thiele Avenue at Oak Avenue in Fresno, California. The San Joaquin River and bluff are located north of the site. A residential development is located east of the site. A PG&E electrical station is located west of the site. Vacant land is located south of the site.

Site history was obtained by reviewing historical aerial photographs taken in 1998, 2007 and 2015. Review of the 1998 aerial photograph indicates that the project site predominately consisted of vacant land. Several vehicle paths trended throughout the site.

Review of the 2007 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 1998 aerial photograph.

Review of the 2015 aerial photograph indicates that the project site predominately consisted of vacant land. A large mound of fill soil was located in the eastern portion of the site.

Presently, the site predominately consists of vacant land. The large mound of fill soil noted in the 2015 aerial photograph was still present in the eastern portion of the site. Buried utility lines are located along the edges of the site associated with the surrounding developments. The site is covered by a moderate weed growth and the surface soils have a loose consistency. With the exception of the mound of fill soil, the site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The San Joaquin Valley, which includes the Fresno area, is a topographic and structural basin that is bounded on the east by the Sierra Nevada Mountains and on the west by the Coast Ranges. The Sierra Nevada, a fault block dipping gently southwestward, is made up of igneous and metamorphic rocks of

pre-Tertiary age that comprise the basement complex beneath the Valley. The Coast Ranges contain folded and faulted sedimentary rocks of Mesozoic and Cenozoic age, which are similar to those rocks that underlie the Valley at depth and non-conformably overlie the basement complex; gently dipping to nearly horizontal sedimentary rocks of Tertiary and Quaternary age overlie the older rocks. These younger rocks are mostly of continental origin and in the Fresno area, they were derived from the Sierra Nevada.

The Coast Ranges evolved as a result of folding, faulting, and accretion of diverse geologic terrains. They are composed chiefly of sedimentary and metamorphic rocks that are sharply deformed into complex structures. They are broken by numerous faults, the San Andreas Fault being the most notable structural feature.

Both the Sierra Nevada and Coast Range are geologically young mountain ranges and possess active and potentially active fault zones. Major active faults and fault zones occur at some distance to the east, west, and south of the Fresno area. The Owens Valley Fault Zone bounds the eastern edge of the Sierra Nevada block and contains both active and potentially active faults.

Portions of the Ortigalita, Calaveras, Hayward, and Rinconada Faults, which are to the west, are considered potentially active. The San Andreas Fault is possibly the best known fault and is located about 60 to 70 miles to the west.

There are no active fault traces in the project vicinity. Accordingly, the project area is not within an Earth Quake Fault Zone (Special Studies Zone) and will not require a special site investigation by an Engineering Geologist.

Fresno residents could feel the affects of a large seismic event on one of the nearby active or potentially active fault zones. Fresno has experienced groundshaking from earthquakes in the historical past. According to the Five County Seismic Safety Element, groundshaking of VII intensity (Modified Mercali Scale) was felt in Fresno from the 1872 Owens Valley Earthquake. This is the largest known earthquake event affecting the Fresno area.

Secondary hazards from earthquakes include rupture, seiche, landslides, liquefaction, and subsidence. Since there are no known faults within the immediate area, ground rupture from surface faulting should not be a potential problem. Seiche and landslides are not hazards in the area either. Liquefaction potential (sudden loss of shear strength in a saturated, cohesionless soil) should be low since groundwater occurs below 60 feet. Lastly, deep subsidence problems may be low to moderate according to the conclusions of the Five County Seismic Safety Element. However, there are no known occurrences of structural or architectural damage due to deep subsidence in the Fresno area.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 8 borings to depths ranging from approximately 10 to 20 feet below existing site grade, using a truck-mounted drill rig. In addition, 3 bulk subgrade samples were obtained from the site for laboratory R-value testing. The approximate boring and bulk sample locations are shown on the site plan. During drilling operations, penetration tests were

performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, and R-value of the materials encountered. In addition, chemical tests were performed to evaluate the corrosivity of the soils for buried concrete. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the upper soils consisted of approximately 6 to 12 inches of very loose silty sand or sandy silt. Some of these soils contained traces of gravel. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated.

A large mound of fill soil is located within eastern portion of the site. The fill material predominately consisted of silty sand and sandy silt with trace gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates that the fill soils ranged from loosely placed to compacted.

Below the loose surface soils and fill material, approximately 2 to 3 feet of loose to very dense silty sand was encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Some of these soils were weakly to moderately cemented in parts. Penetration resistance ranged from 8 blows per foot to greater than 50 blows per 6 inches. Dry densities ranged from 98 to 111 pcf. A representative soil sample consolidated approximately 1½ percent under a 2 ksf load when saturated.

Below 2 to 4½ feet in a majority of the borings, approximately 3 to 5 feet of very dense weakly to moderately cemented silty sand or sandy silt, locally referred to as hardpan, were encountered. The cemented nature of the subsoil hampered recovery of undisturbed soil samples. However, these cemented soils can be generally characterized as relatively strong, slightly compressible, and have a low permeability. Penetration resistance was generally greater than 50 blows per 6 inches. These soils had similar strength characteristics as the upper soils.

Below 5 to 6 feet, alternating layers of predominately medium dense to very dense silty sand, silty sand/sandy silt, silty sand with clay or sand were encountered. Some of these soils were weakly cemented in parts. Field and laboratory tests suggest that these soils had similar strength characteristics

as the upper soils. Penetration resistance ranged from 18 blows per foot to greater than 50 blows per 6 inches. Dry densities ranged from 74 to 120 pcf. Representative soil samples had angles of internal friction ranging from 33 to 41 degrees. These soils extended to the termination depth of our borings.

For additional information about the soils encountered, please refer to the boring logs in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered.

Cemented silty sands and sandy silts, locally referred to as "hardpan," were encountered below 2 to 4½ feet within several of the borings. This cementation retards the free percolation of the surface water into the soil stratum below the hardpan frequently resulting in a temporary perched water table condition at or near the ground surface.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the loose surface soils, fill material, and previous development, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics and are highly compressible when saturated. Accordingly, it is recommended that the surface soils be recompacted. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

A mound of fill soil is located within the eastern portion of the site. The fill material predominately consisted of silty sand and sandy silt. Some of these soils contained traces of gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Verification of the extent of fill should be determined during site grading. It is recommended that fill the soil be excavated and stockpiled so that the native soils can be prepared properly. These soils will be suitable for re-use as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments greater than 4 inches in maximum dimension. Prior to backfilling, Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional excavation will be required.

The site was previously utilized as agricultural land. In addition, the site is surrounded by residential developments, commercial developments and vacant land. Associated with these developments are buried structures, such as utility lines, irrigation lines and possible septic systems. Any buried structures, including utilities or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill. It is suspected that demolition activities of the existing structures will disturb the upper soils. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

Cemented silty sand and sandy silt, locally referred to as hardpan, were encountered below 2 to 4½ feet in a majority of the borings. Hardpan is an excellent foundation-bearing material because of its apparent rock-like properties caused by particle cementation. However, this same cementation also retards the free percolation of the surface water into the soil stratum below the hardpan, frequently resulting in a temporary perched water table condition at or near the ground surface. This perched water condition has a substantial affect on the strength characteristics of the surface soils. As a mitigation measure, very positive drainage should be established around the proposed structures.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,000 psf for dead-plus-live loads. Footings should have a minimum embedment of 12 inches.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, “pump,” or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Some structures in the Fresno area that are founded on hardpan have experienced standing water for extended periods of time in crawl spaces below wooden floors or within sunken floor slab areas. The sources of the water were natural precipitation and landscape irrigation, and consequently, wood floor and sunken floor slab construction in hardpan soils are discouraged.

Site Preparation

General site clearing should include removal of vegetation; debris; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

A large mound of fill soil is located within the eastern portion of the site. The fill material predominately consisted of silty sand and sandy silt intermixed with traces of gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Verification of the extent of fill should be determined during site grading. Limited testing was performed on the fill soil during the time of our field and laboratory investigations. The limited testing indicates the fill soil had varying strength characteristics ranging from loosely placed to compacted. Therefore, it is recommended that fill soil which are not properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. These soils will be suitable for re-use as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments greater than 4 inches in maximum dimension. Prior to backfilling, Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

The site was previously utilized as agricultural land. In addition, the site is surrounded by residential developments, commercial developments and vacant land. Associated with these developments are buried structures, such as utility lines, septic systems and irrigation lines. All buried structures or loosely backfilled excavations encountered during construction should be properly removed. The resulting excavations should be cleaned to firm native ground and backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Excavations, depressions, or soft and pliant areas extending below planned finish subgrade level should be cleaned to firm undisturbed soil, and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Water wells should be abandoned in accordance with county standards. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. The site should be explored with fully loaded scrapers to help identify areas of loose unstable fills soils. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

Following stripping, fill removal operations, and demolition activities, the exposed subgrade in building pad, exterior flatwork, and pavement areas should be excavated/scarified to a depth of at least 6 inches, worked until uniform and free from large clods, moisture-conditioned as necessary, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of recompaction should extend 5 feet beyond structural elements. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Relatively clean sands were encountered within the vicinity of Boring No. B1. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 2 feet below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere on the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The upper on-site native and fill soils predominately consisted of silty sands, sandy silts and sands. Some of these soils contained traces of clay and gravel. Some of these soils are weakly to moderately cemented. Preliminary testing indicates these soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material with a plasticity index less than 10 and a UBC Expansion Index less than 15. Imported Fill should be free from rocks and clods greater than 4 inches in diameter. All Imported Fill material should be submitted to the Soils Engineer for approval at least 48 hours prior to delivery at the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 90 percent maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be minimized; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow foundation system bearing on undisturbed native soil or on Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,500 psf
Dead-Plus-Live Load	2,000 psf
Total Load, Including Wind or Seismic Loads	3,325 psf

The footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 12 inches, regardless of load.

The total movement is not expected to exceed 1 inch. Differential movement should be less than ½ inch. Most of the movement is expected to occur during construction, as the loads are applied. However, additional post-construction movement may occur if the foundation soils are flooded or saturated.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.35 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 325 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ½ increase in the value above may be used for short duration, wind, or seismic loads. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

Floor Slabs and Exterior Flatwork

Concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. Exterior finish grades should be sloped a minimum of 2 percent away from all interior slab areas to preclude ponding of water adjacent to the structures. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and

mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 40 pounds per square foot per foot of depth. Walls that are incapable of this deflection or walls that are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 60 pounds per square foot per foot per depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

R-Value Test Results and Pavement Design

Three subgrade soil samples were obtained from the project site for R-value testing at the locations shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Silty Sand (SM)	59
2	12-24"	Silty Sand (SM)	57
3	12-24"	Silty Sand (SM)	58

The test results are moderate and indicate good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade**
4.0	2.0"	4.0"	12.0"
4.5	2.5"	4.0"	12.0"
5.0	2.5"	4.0"	12.0"
5.5	3.0"	4.0"	12.0"
6.0	3.0"	4.0"	12.0"
6.5	3.5"	4.0"	12.0"
7.0	4.0"	4.0"	12.0"
7.5	4.0"	4.0"	12.0"

* 95% compaction based on ASTM Test Method D1557 or CAL 216

** 90% compaction based on ASTM Test Method D1557 or CAL 216

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete Pavement Sections based on the design procedures developed by the Portland Cement Association.

**PORTLAND CEMENT PAVEMENT
LIGHT DUTY**

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	--	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	--	12.0"

* 95% compaction based on ASTM Test Method D1557 or CAL 216

** 90% compaction based on ASTM Test Method D1557 or CAL 216

***Minimum compressive strength of 3000 psi

It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompacted. The fill materials should be moisture-conditioned to near optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Seismic Parameters – 2016 California Building Code

The Site Class per Section 1613 of the 2016 California Building Code (2016 CBC) and Table 20.3-1 of ASCE 7-10 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2016 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.3.2
Site Coefficient F_a	1.266	Table 1613.3.3 (1)
S_s	0.667	Section 1613.3.1
S_{MS}	0.845	Section 1613.3.3
S_{DS}	0.563	Section 1613.3.4
Site Coefficient F_v	1.869	Table 1613.3.3 (2)
S_1	0.265	Section 1613.3.1
S_{M1}	0.496	Section 1613.3.3
S_{D1}	0.331	Section 1613.3.4

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and UBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 150 ppm and are below the maximum allowable values established by HUD/FHA and UBC. Therefore, no special design requirements are necessary to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill

material passing the required percent compaction is a fill which has been compacted with an in situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in

this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

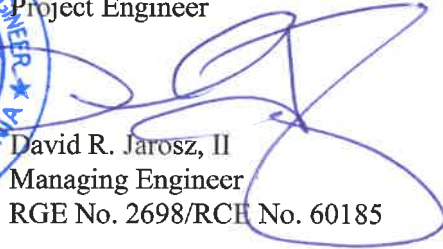
The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

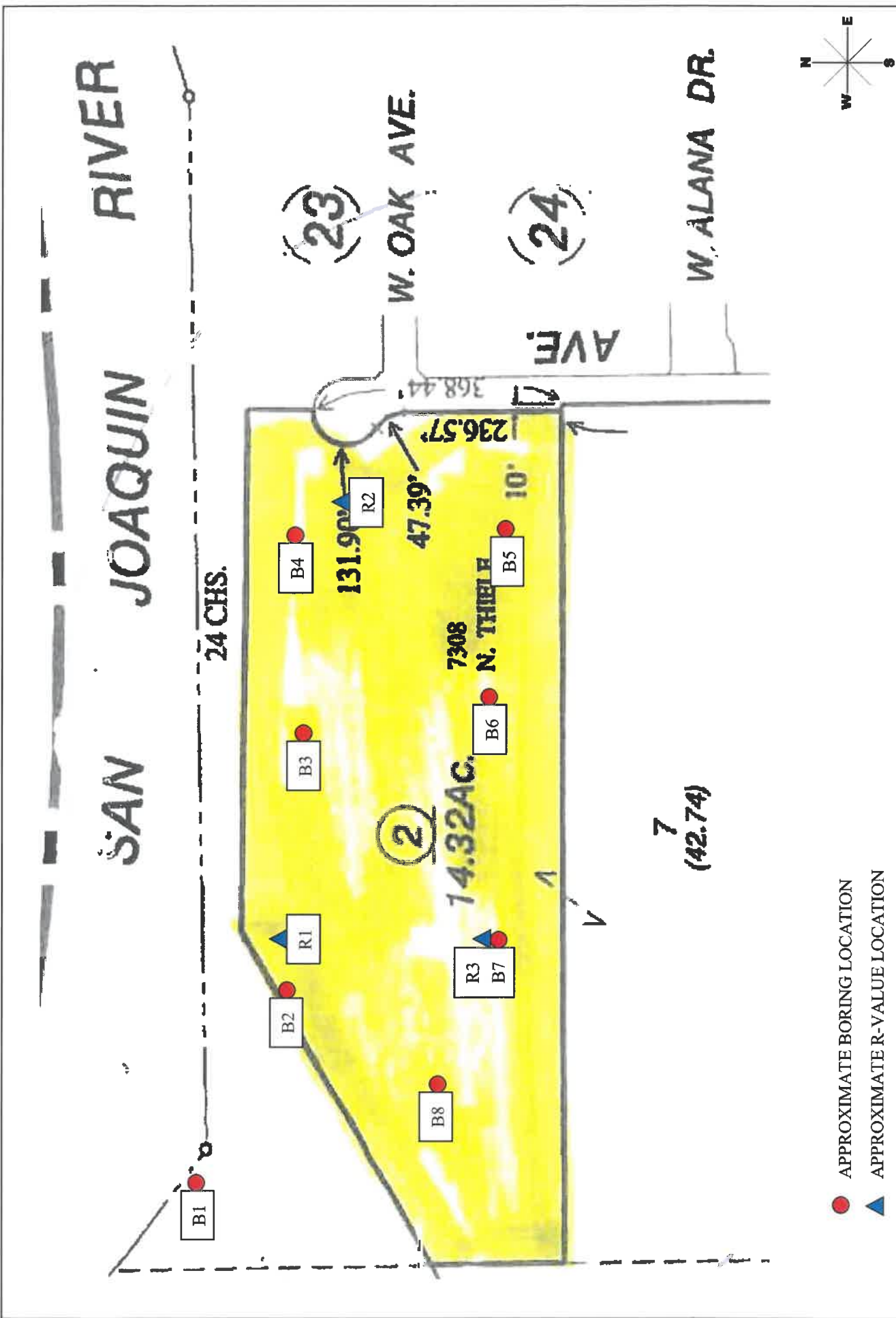


Steve Nelson
Project Engineer



David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

SN/DRJ:ht



- APPROXIMATE BORING LOCATION
- ▲ APPROXIMATE R-VALUE LOCATION

SITE MAP Tapestry III N. Thiele Avenue at Oak Avenue Fresno, California	Scale: NTS Drawn by: HT Project No. 012-17145	Date: August 2017 Approved by: DJ Figure No. 1
	Krazan GEOTECHNICAL ENGINEERING	

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Eight 4½-inch exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests were performed at selected depths. This test represents the resistance to driving a 2½-inch diameter core barrel. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

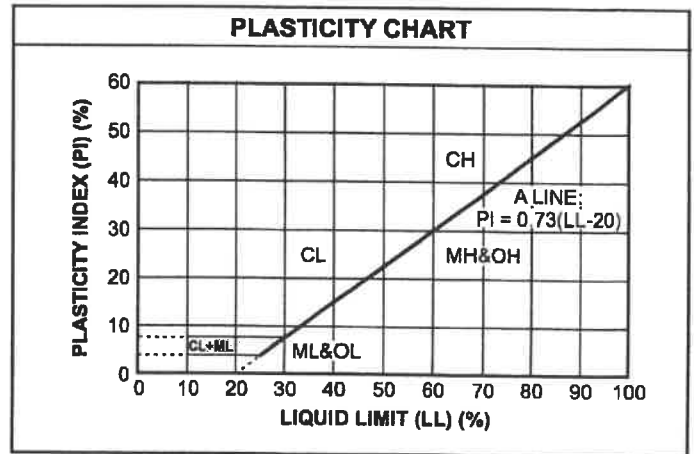
The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART		
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	
	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	
	GM	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	
	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)		
SILTS AND CLAYS Liquid limit less than 50%	ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils

CONSISTENCY CLASSIFICATION	
Description	Blows per Foot
<i>Granular Soils</i>	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
<i>Cohesive Soils</i>	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION			
Grain Type	Standard Sieve Size	Grain Size in Millimeters	
Boulders	Above 12 inches	Above 305	
Cobbles	12 to 13 inches	305 to 76.2	
Gravel	3 inches to No. 4	76.2 to 4.76	
	Coarse-grained	3 to ¾ inches	76.2 to 19.1
	Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074	
	Coarse-grained	No. 4 to No. 10	4.76 to 2.00
	Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074	
Silt and Clay	Below No. 200	Below 0.074	



Log of Boring B1

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-1

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water:

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.							
0		Ground Surface											
2		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot		0.8		8							
4		GRAVELLY SAND (SP) Medium dense, fine- to medium-grained; light brown, damp, drills easily	119.5	1.5		18							
8		SILTY SAND/SAND (SM/SP) Dense, fine- to medium-grained; gray, damp, drills easily											
10			108.8	5.8		46							
14		SAND (SP) Dense, fine- to medium-grained; gray, damp, drills easily Very dense below 15 feet											
16			105.5	2.6		69							
18													
20													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 40 Feet

Sheet: 1 of 2

Log of Boring B1

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-1

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water >

Initial: None

At Completion: None

SUBSURFACE PROFILE		SAMPLE				Penetration Test blows/ft	Water Content (%)						
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type		Blows/ft.	20	40	60	10	20	30
22			96.5	5.5		50+				■			
24		SILTY SAND (SM) Very dense, fine-grained; gray, damp, drills easily											
26			116.2	7.2		50+				■			
28		SAND (SP) Very dense, fine- to medium-grained; gray, damp, drills easily											
30			99.7	8.8		50+				■			
32													
34													
36		Medium dense with thin lenses of SILTY SAND/SAND below 35 feet	105.1	4.9		24				■			
38													
40													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 40 Feet

Sheet: 2 of 2

Log of Boring B2

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-2

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.							
0		Ground Surface											
2		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot											
4		SILTY SAND (SM) Very dense, fine- to medium-grained, weakly cemented; brown, damp, drills very hard	102.4	1.3		50+							
6						50+							
8		SANDY SILT (ML) Very dense, fine- to medium-grained, weakly cemented; gray, damp, drills hard	78.1	6.7		50+							
10		With increased SAND below 11 feet											
12													
14													
16		End of Borehole											
18													
20													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 15 Feet

Log of Boring B3

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-3

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft			Water Content (%)			
							20	40	60	10	20	30	40
0		Ground Surface											
0 - 2		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot Medium dense below 2 feet	105.4	2.1		40							
2 - 6		SILTY SAND (SM) Very dense, fine- to medium-grained, weakly cemented; brown, damp, drills hard				50+							
6 - 10		End of Borehole											
10 - 12													
12 - 14													
14 - 16													
16 - 18													
18 - 20													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-4

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test			Water Content (%)			
							20	40	60	10	20	30	40
0		Ground Surface											
0 - 2		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot Medium dense below 1½ feet	98.6	1.6		50+							
2 - 6		SILTY SAND (SM) Very dense, fine- to medium-grained, weakly cemented; brown, damp, drills very hard				50+							
6 - 8		SANDY SILT (ML) Very dense, fine-grained, weakly cemented; gray, damp, drills easily	79.7	10.2		50+							
8 - 12		SAND (SP) Medium dense, fine- to medium-grained; brown, damp, drills firmly											
12 - 16		End of Borehole											
16 - 20													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-5

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.							
0		Ground Surface											
0		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot											
2		SILTY SAND (SM) Very dense, fine- to medium-grained with trace CLAY, weakly cemented; brown, damp, drills firmly	90.4	8.5		50+							■
4													
6						50+							
8													
10		End of Borehole											
12													
14													
16													
18													
20													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B6

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-6

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE		SAMPLE				Penetration Test blows/ft			Water Content (%)					
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.								
							20	40	60	10	20	30	40	
0		Ground Surface												
2		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot	89.8	2.2		8								
4		SILTY SAND (SM) Very dense, fine- to medium-grained with trace CLAY, weakly cemented; brown, damp, drills hard	88.7	7.9		50+								
6														
8			74.3	10.0		50+								
10		With increased SAND below 11 feet												
12														
14														
16		End of Borehole												
18														
20														

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B7

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-7

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water >

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.							
0		Ground Surface											
2		SILTY SAND (SM) Very loose, fine- to medium-grained with lenses of SANDY SILT; brown, damp, drills easily Loose below 1 foot Medium dense and reddish-brown with trace CLAY below 2 feet	111.5	7.6		20							
6		SILTY SAND (SM) Very dense, fine- to medium-grained, weakly cemented; brown, damp, drills hard	85.7	6.2		50+							
10		End of Borehole											
12													
14													
16													
18													
20													

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Residential Development - Tapestry III

Project No: 012-17145

Client: Benchmark Communities

Figure No.: A-8

Location: N. Thiele Avenue at Oak Avenue, Fresno, CA

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)				
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.								
							20	40	60	10	20	30	40	
0		Ground Surface												
0		SILTY SAND (SM) Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 1 foot												
2			100.9	1.6		11								
4														
4		SILTY SAND (SM) Very dense, fine- to medium-grained with trace CLAY, weakly cemented; reddish-brown, damp, drills hard												
6						50+								
8														
10		End of Borehole												
12														
14														
16														
18														
20														

Drill Method: Solid Flight

Drill Date: 7-28-17

Drill Rig: CME 45C-3

Krazan and Associates

Hole Size: 4½ Inches

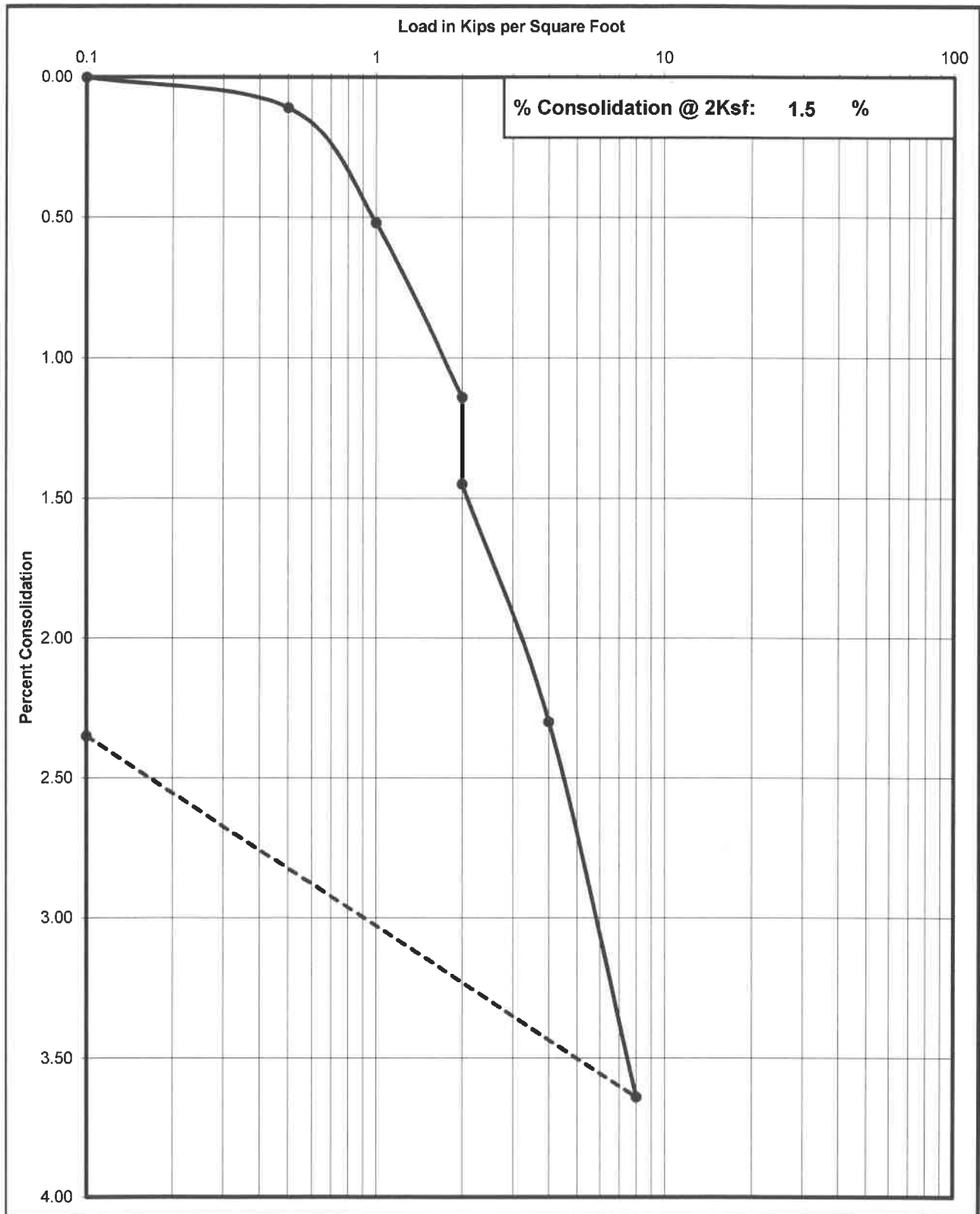
Driller: Jim Watts

Elevation: 10 Feet

Sheet: 1 of 1

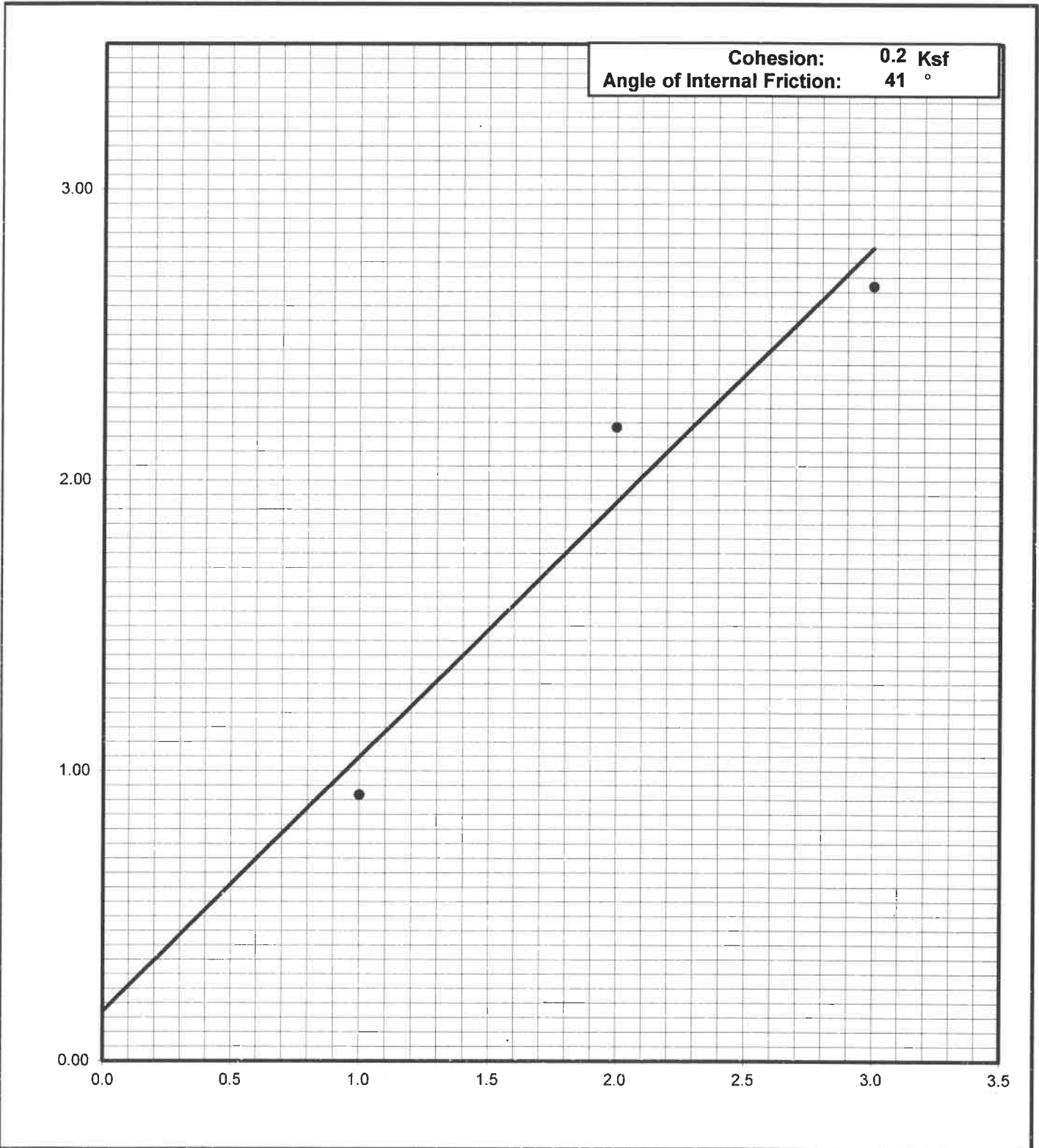
Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
012-17145	B7 @ 2-3'	8/2/2017	ML



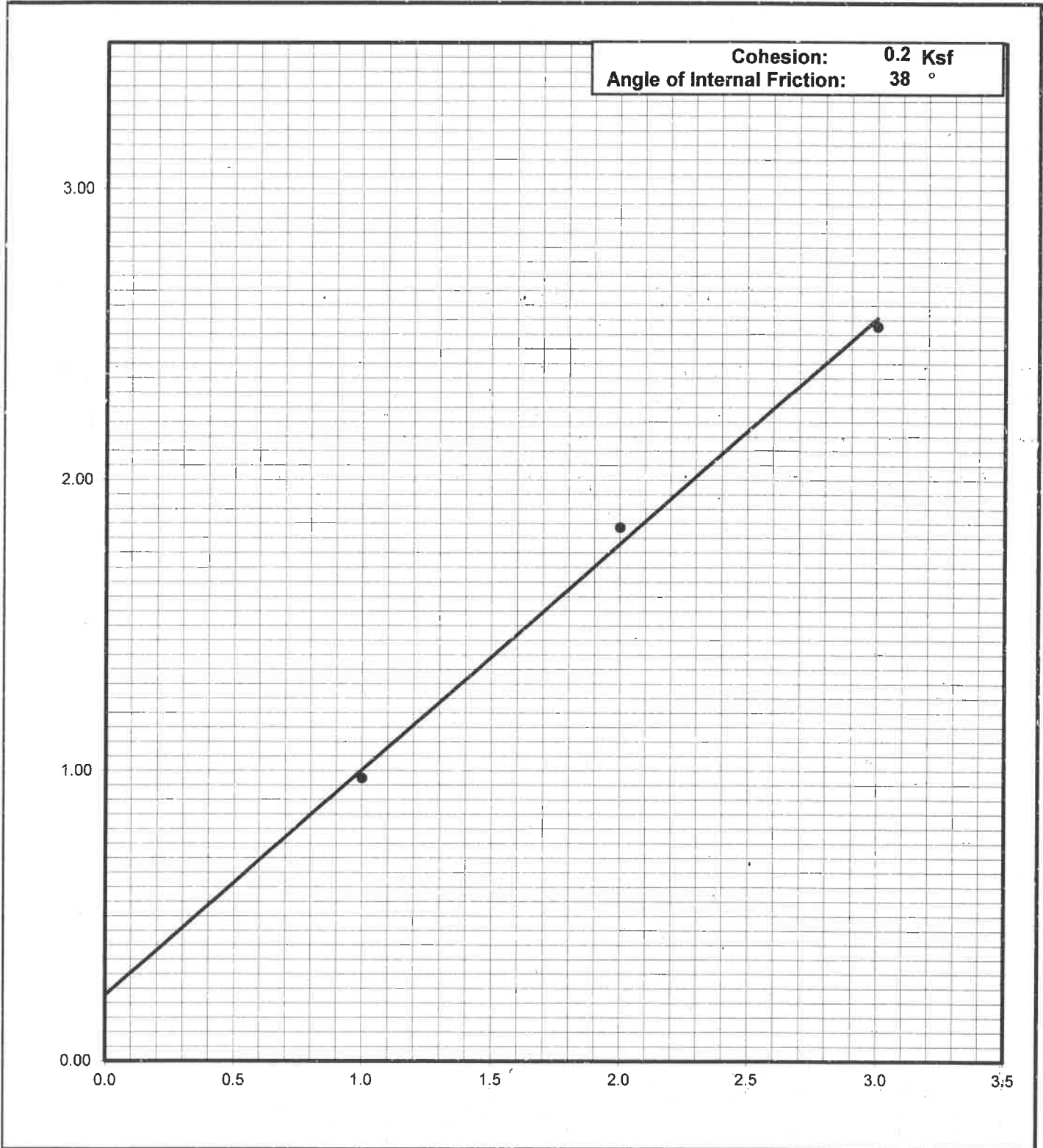
Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-17145	B1 @ 5-6'	SP	8/2/2017



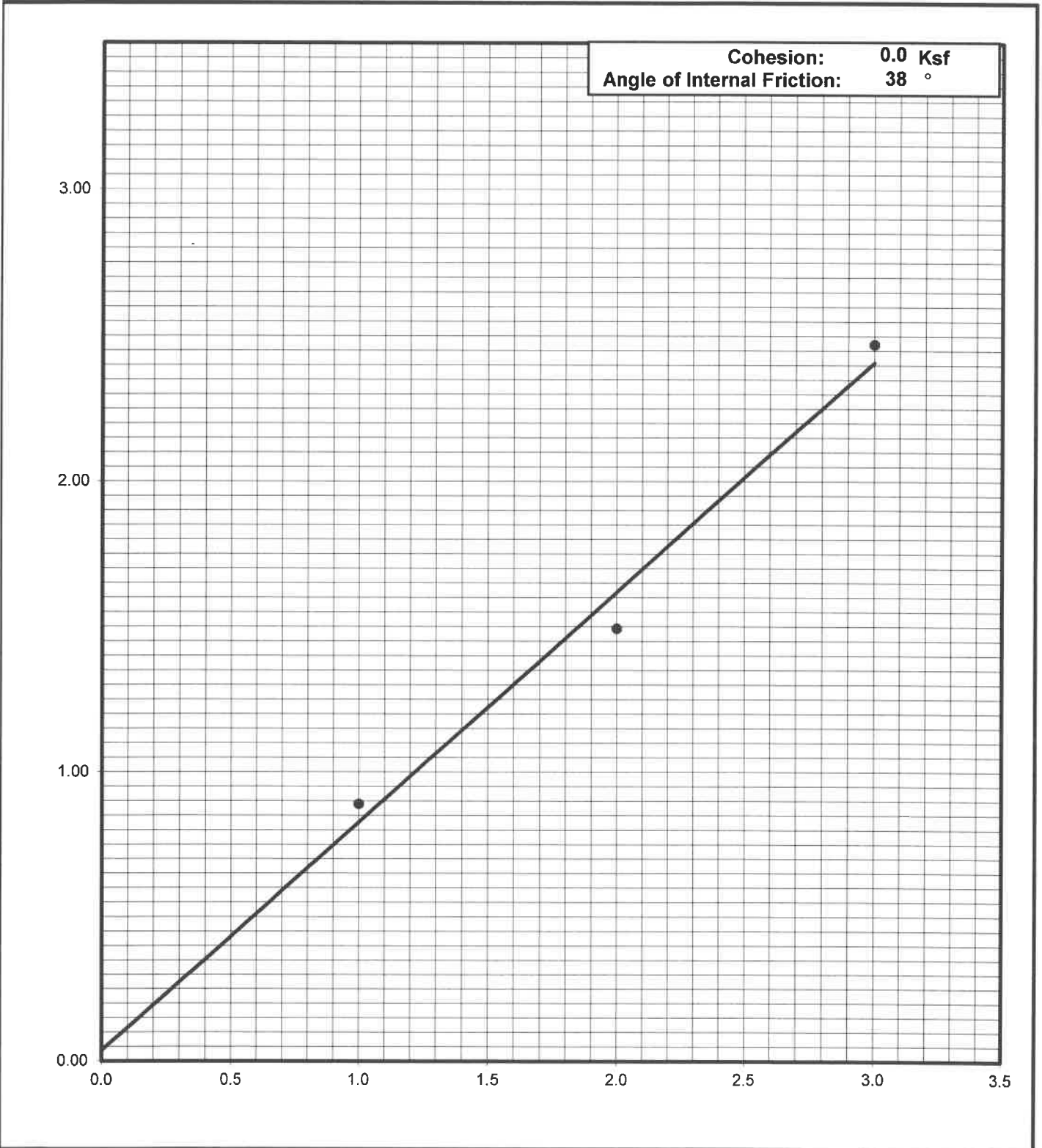
Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-17145	B1 @ 10-11'	SM-SP	8/2/2017



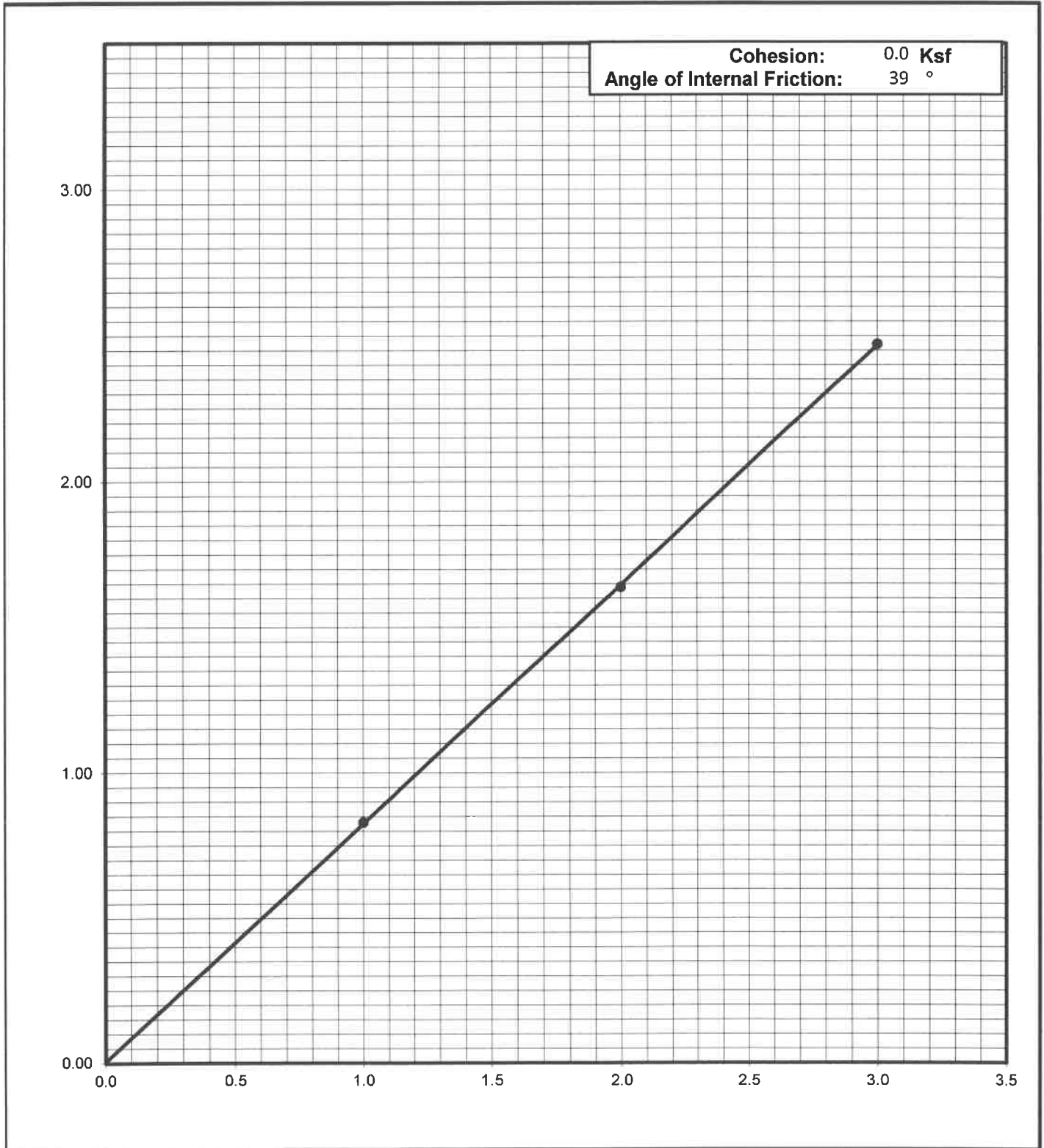
Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-17145	B1 @ 15-16'	SP	8/2/2017



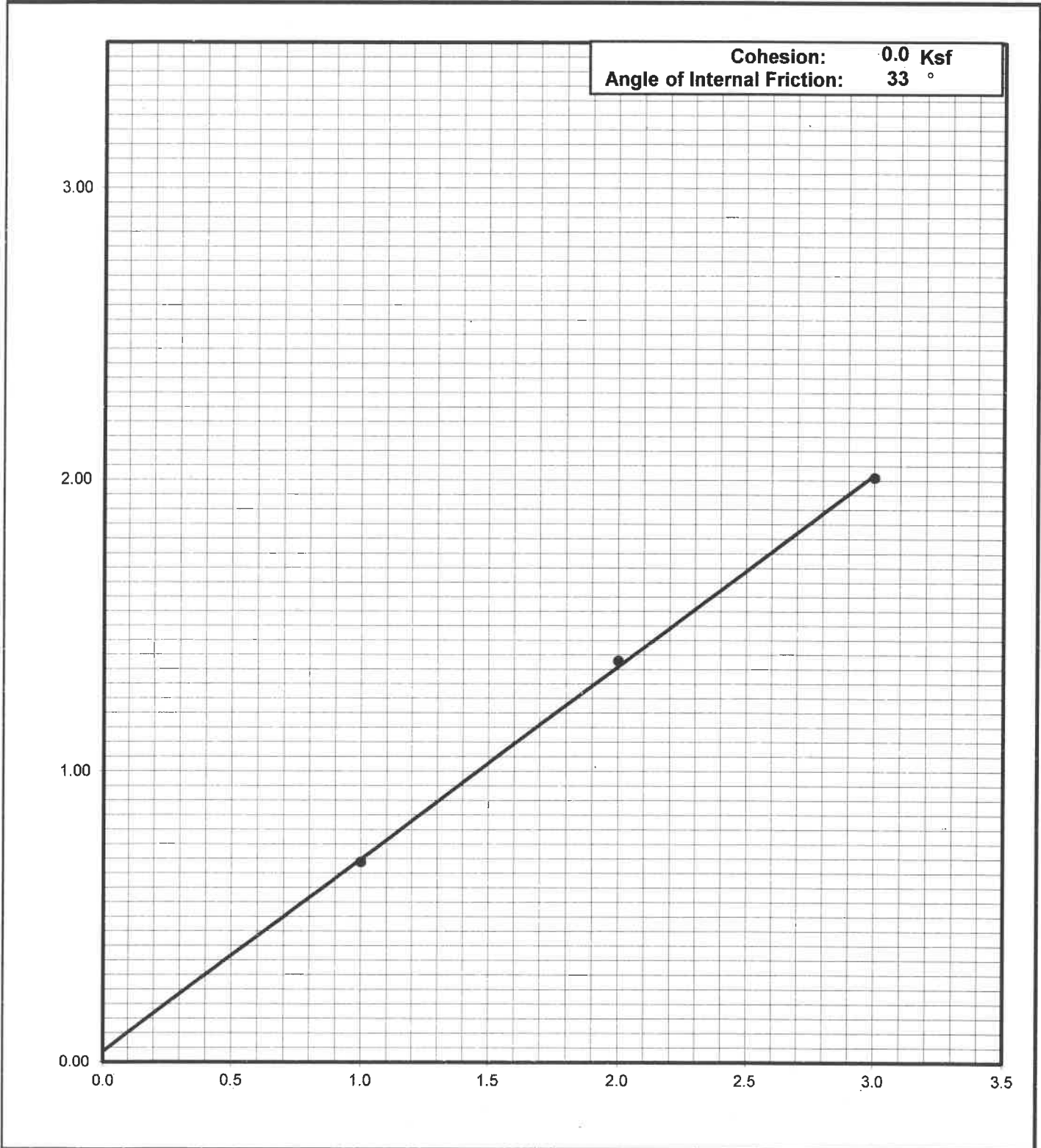
Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-17145	B1 @ 25-26'	SM	8/2/2017

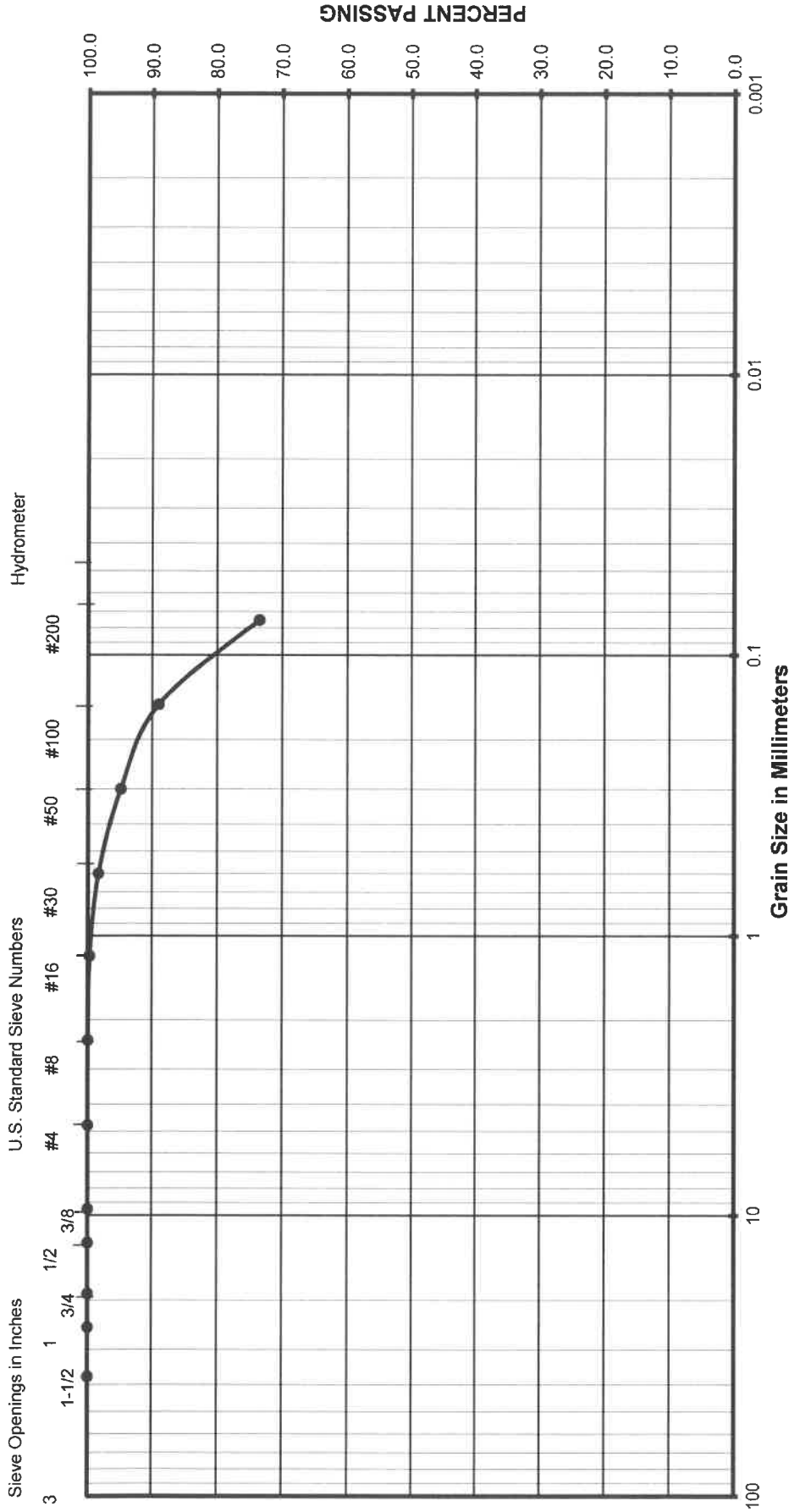


Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-17145	B1 @ 35-36'	SM-SP	8/2/2017



Grain Size Analysis



Gravel		Sand		Silt or Clay
Coarse	Fine	Coarse	Fine	

(Unified Soils Classification)

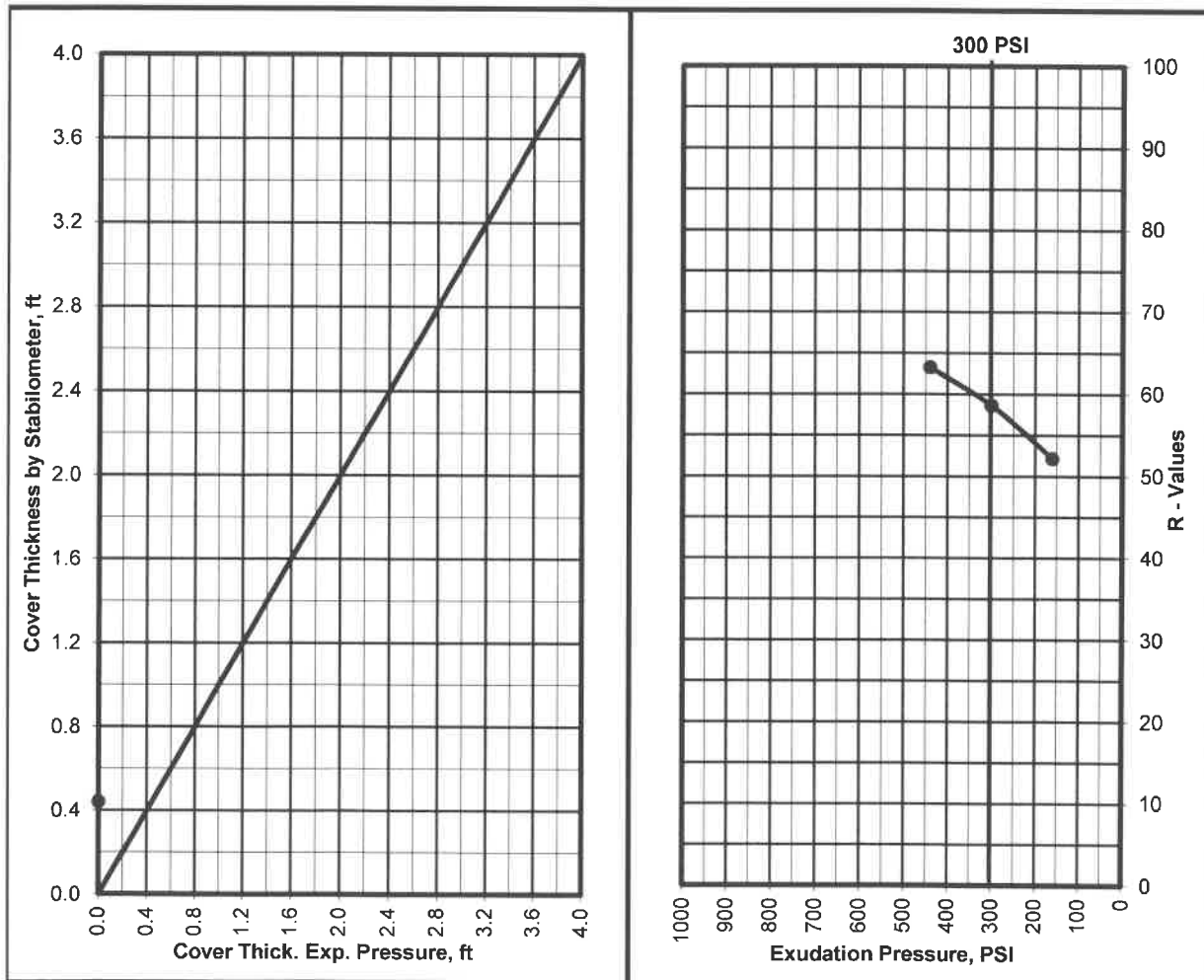
Project Name: Residential Development (N. Thiele Ave.) - Tapestry III
 Project Number: 012-17145
 Soil Classification: ML
 Sample Number: B7 @ 2-3'

R - VALUE TEST ASTM D - 2844 / CAL 301

Project Number : 012-17145
 Project Name : Residential Development (N. Thiele Ave.) - Tapestry III
 Date : 7/31/2017
 Sample Location/Curve Number : RV#1
 Soil Classification : SM

TEST	A	B	C
Percent Moisture @ Compaction, %	14.0	13.4	14.6
Dry Density, lbm/cu.ft.	106.3	106.3	106.4
Exudation Pressure, psi	300	440	160
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	59	63	52

R Value at 300 PSI Exudation Pressure	59
R Value by Expansion Pressure (TI =): 5	Expansion Pressure nil



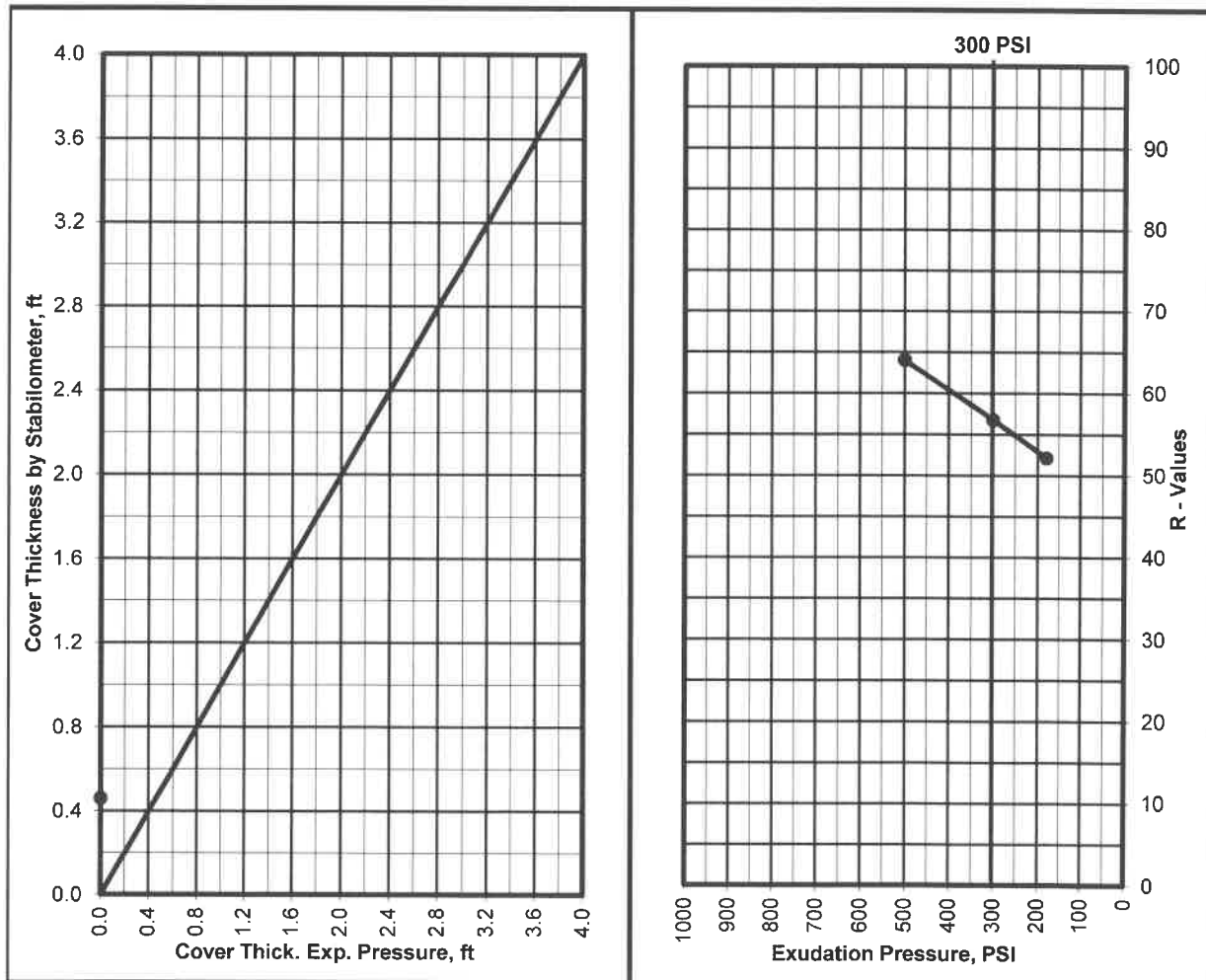
R - VALUE TEST

ASTM D - 2844 / CAL 301

Project Number : 012-17145
 Project Name : Residential Development (N. Thiele Ave.) - Tapestry III
 Date : 7/31/2017
 Sample Location/Curve Number : RV#2
 Soil Classification : SM

TEST	A	B	C
Percent Moisture @ Compaction, %	13.4	14.0	12.8
Dry Density, lbm/cu.ft.	108.3	107.5	108.8
Exudation Pressure, psi	300	180	500
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	57	52	64

R Value at 300 PSI Exudation Pressure	57
R Value by Expansion Pressure (TI =): 5	Expansion Pressure nil

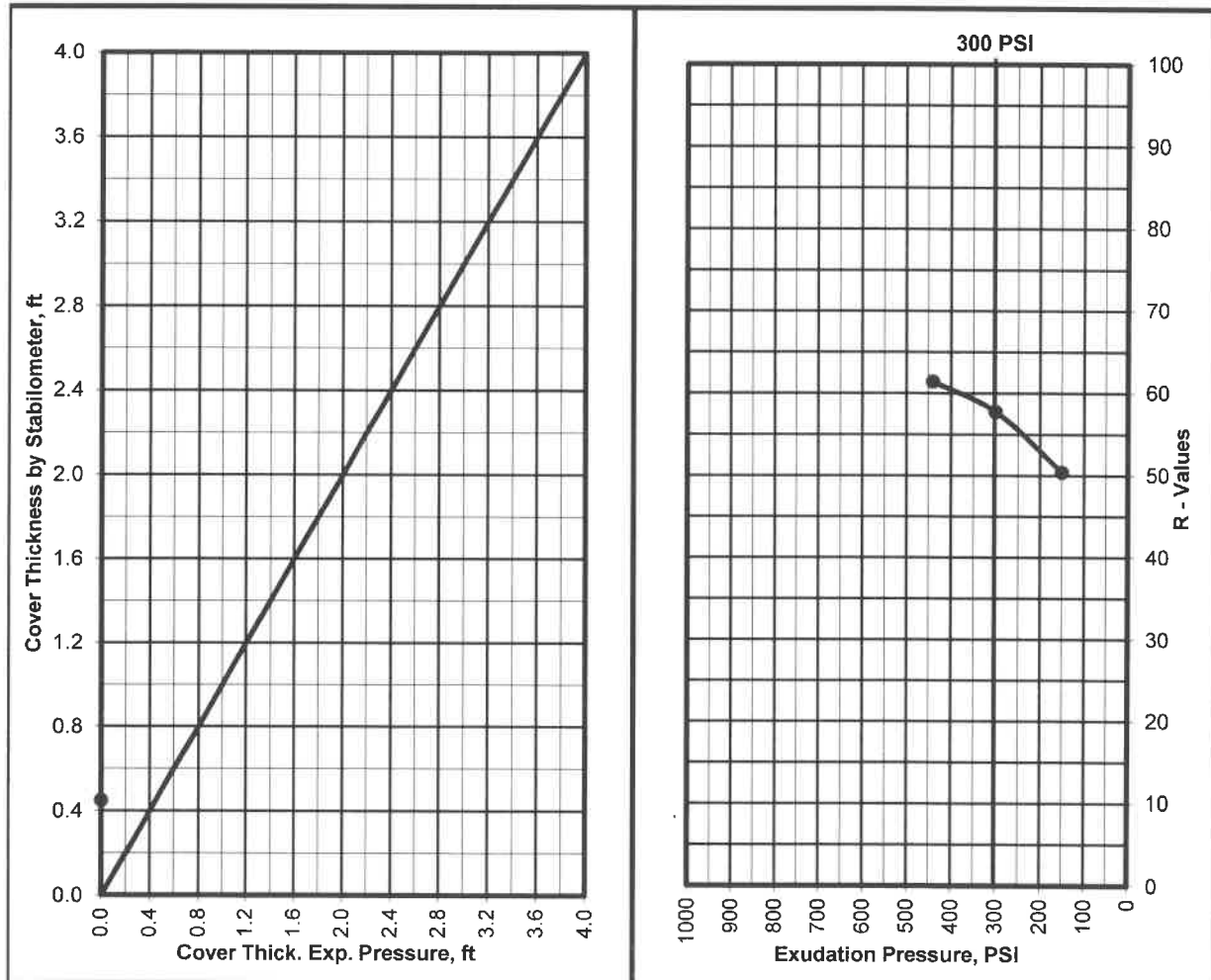


R - VALUE TEST ASTM D - 2844 / CAL 301

Project Number : 012-17145
 Project Name : Residential Development (N. Thiele Ave.) - Tapestry III
 Date : 7/31/2017
 Sample Location/Curve Number : RV#3
 Soil Classification : SM

TEST	A	B	C
Percent Moisture @ Compaction, %	13.0	13.6	12.5
Dry Density, lbm/cu.ft.	105.2	105.6	104.7
Exudation Pressure, psi	300	150	440
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	58	50	61

R Value at 300 PSI Exudation Pressure	58
R Value by Expansion Pressure (TI =): 5	Expansion Pressure nil



APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 90 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 90 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2010 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically noted as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 90 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

April 21, 2021

KA Project No. 012-20210

Mr. Dennis Gaab
Century Communities
7815 N. Palm Avenue, Suite 101
Fresno, California 93711

**RE: Seismic Design Requirements Update
Tract 6195 – Tapestry III
N. Thiele Avenue at Oak Drive
Fresno, California**

Dear Mr. Gaab:

In accordance with your request, we are providing this Seismic Design Requirements Update to our Geotechnical Engineering Investigation for the above-referenced project site. Krazan & Associates, Inc. had previously conducted a Geotechnical Engineering Investigation report (KA Project No. 012-17145) dated August 7, 2017. This letter provides additional information to conform to seismic design requirements of the 2019 California Building Code (2019 CBC).

The Site Class per Section 1613 of the 2019 California Building Code (2019 CBC) and ASCE 7-16, Chapter 20 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2019 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.2.2
Site Coefficient F_a	1.314	Table 1613.2.3 (1)
S_s	0.608	Section 1613.2.1
S_{MS}	0.799	Section 1613.2.3
S_{DS}	0.532	Section 1613.2.4
Site Coefficient F_v	2.132	Table 1613.2.3 (2)
S_1	0.234	Section 1613.2.1
S_{M1}	0.499	Section 1613.2.3
S_{D1}	0.333	Section 1613.2.4
T_s	0.625	Section 1613.2

* Based on Equivalent Lateral Force (ELF) Design Procedure being used.

The recommendations and limitations provided in our previous Geotechnical Engineering Investigation report will apply to this Update letter. If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.



Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

August 23, 2021

KA Project No. 012-20210

Mr. Jerome Keene
Century Communities
7815 N. Palm Avenue, Suite 101
Fresno, California 93711

**RE: Addendum to Geotechnical Engineering Investigation
Proposed Tract 6195 - Tapestry III
N. Thiele Avenue at Oak Drive
Fresno, California**

Dear Mr. Keene:

In accordance with your request, we are providing this Addendum to our Geotechnical Engineering Investigation for the above-referenced project site. Krazan & Associates, Inc. had previously conducted a Geotechnical Engineering Investigation report dated August 7, 2017 (KA Project No. 012-17145) and a Seismic Design Requirements Update dated April 21, 2021 (KA Project No. 012-20210). This addendum provides supplemental information regarding the park trail.

It is understood a park trail will be constructed along the northern property line. The trail needs to support a 20,000-pound fire truck. The R-values collected during our previous investigation ranged from 57 to 59. Based on this information, it is our opinion the City of Fresno Asphalt Class I Trail (P-58) consisting of 2 inches of asphalt underlain by 4 inches of Class 2 aggregate base over compacted subgrade will meet the intent of supporting the 20,000-pound fire truck.

The recommendations and limitations provided in our Geotechnical Engineering Investigation report dated August 7, 2017 apply to this letter.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.




Dave R. Jarosz
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

Appendix D

Acoustical Analysis

ACOUSTICAL ANALYSIS

**TRACT 6195, TAPESTRY III
FRESNO, CALIFORNIA**

WJVA Project No. 20-035

PREPARED FOR

**CENTURY COMMUNITIES, CENTRAL VALLEY DIVISION
7815 NORTH PALM AVENUE, SUITE 101
FRESNO, CA 93711**

PREPARED BY

**WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA**



wjuv acoustics

JUNE 28, 2021

INTRODUCTION

The project is a proposed 89-lot single-family residential development to be located in Fresno, California. The project site is located west of North Thiele Avenue, approximately one-quarter mile north of West Spruce Avenue. The City of Fresno has requested an acoustical analysis to quantify project site noise exposure and determine noise mitigation requirements. This analysis, prepared by WJV Acoustics, Inc. (WJVA), is based upon a project site plan prepared by Precision Engineering (dated 9-11-18), traffic data provided by JLB Traffic Engineering 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

The City of Fresno General Plan Noise Element (adopted 12/18/14) provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} represents 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 L_{dn} represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. Table I provides the General Plan noise level standards for transportation noise sources.

TABLE I			
CITY OF FRESNO GENERAL PLAN NOISE LEVEL STANDARDS TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES			
Noise-Sensitive Land Use	Outdoor Activity Areas ¹		Interior Spaces
	L_{dn} /CNEL, dB	L_{dn} /CNEL, dB	L_{eq} dB ²
Residential	65	45	---
Transient Lodging	65	45	---
Hospitals, Nursing Homes	65	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	65	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

1 Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

Source: City of Fresno General Plan

Additionally, Implementing Policy NS-1-h 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.

PROJECT SITE NOISE EXPOSURE

The project site is located west of N. Thiele Avenue, approximately one-quarter mile north of W. Spruce Avenue. The project site is exposed traffic noise. The distance from center of the backyards of the closest proposed lots to the centerline of N. Thiele Avenue is approximately 65 feet. Additionally, the project site is located approximately one-third of a mile from the future alignment of the California High Speed Rail (HSR) line and the Union Pacific Railroad (UPR) mainline.

Traffic Noise Exposure

Noise exposure from traffic on N. Thiele Avenue was calculated for existing and future (2042 plus project) conditions using the FHWA Traffic Noise Model and traffic data provided by JLB Traffic Engineering. WJVA staff conducted a calibration noise measurement at the project site.

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 October 4, 2020. The purpose of the measurement was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. The measurement site was located within the project site at a distance of approximately 75 feet from the centerline of N. Thiele Avenue. The speed limit on N. Thiele Avenue was not posted, and was assumed to be 35 mph (miles per hour). The project vicinity and noise monitoring site locations are provided as Figure 2.

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 II.

From Table II it may be determined that the traffic noise levels predicted by the FHWA Model were 3.5 dB lower than those measured for the conditions observed at the time of the noise measurements for N. Thiele Avenue. The underprediction of the noise model is a result of extremely low traffic volumes observed on N. Thiele Avenue and the presence of extraneous noise sources in the general project area. An adjustment to the model is not warranted in this situation.

TABLE II COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS TRACT 6195, TAPESTRY III, FRESNO	
	N. Thiele Ave.
Measurement Start Time	9:10 a.m.
Observed # Autos/Hr.	24
Observed # Medium Trucks/Hr.	0
Observed # Heavy Trucks/Hr.	0
Observed Speed (MPH)	35
Distance, ft. (from center of roadway)	75
L _{eq} , dBA (Measured)	51.1
L _{eq} , dBA (Predicted)	47.6
Difference between Measured and Predicted L_{eq}, dBA	3.5

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

Annual Average Daily Traffic (AADT) data for N. Thiele Avenue was obtained from JLB Traffic Engineering. 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. A speed limit of 35 mph was assumed for both roadways. Table III summarizes annual average traffic data used to model noise exposure within the project site.

TABLE III
TRAFFIC NOISE MODELING ASSUMPTIONS
TRACT 6195, TAPESTRY III, FRESNO

	N. Thiele Ave.	
	Existing	2042 Plus Project
Annual Avenue Daily Traffic (AADT)	550	1,060
Day/Night Split (%)	90/10	
Assumed Vehicle Speed (mph)	35	
% Medium Trucks (% AADT)	2	
% Heavy Trucks (% AADT)	1	
Sources: Fresno COG WJV Acoustics, Inc.		

Using data from Table III, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed backyards from N. Thiele Avenue. The calculated noise exposures for existing and future (2042 plus project) traffic conditions for the closest proposed setbacks to N. Thiele Avenue were approximately 49 dB L_{dn} and 52 dB L_{dn}, respectively. Such noise levels do not exceed the applicable City of Fresno exterior noise level standard of 65 dB L_{dn}, and mitigation measures are not required for compliance.

Railroad Noise Exposure

Union Pacific Railroad

The Union Pacific Railroad (UPR) mainline is located approximately 1,750 feet southwest of the project site. The railroad consists of a single-track mainline with continuously welded rail in the vicinity of the project site. There is a grade crossing located west of Herndon Avenue. Train engineers are required to sound warning horns when within approximately ¼ mile of a grade crossing. The estimated speed of trains passing the project site is 30-45 mph.

WJVA reviewed train noise level data previously obtained in the project vicinity, along the UPR line. Noise level monitoring was conducted by WJVA near the project site on June 30, 2016 to document typical noise levels from UPRR train movements in the project vicinity. Railroad noise measurements were conducted approximately 110 feet from the railroad line.

Noise monitoring equipment consisted of a Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2" microphone. This 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 placed on a tripod at five (5) feet above the ground.

A total of six (6) train movements were monitored. The average SEL for the six train movements was 108.1 dB and the average maximum noise level (L_{max}) was 102.0 dB. The SEL is a measure of

the total energy of a noise event, including consideration of event duration. The SEL is not actually heard, but is a derived value used for the calculation of energy-based noise exposure metrics such as the L_{dn} .

According to the U.S. Department of Transportation Railroad Crossing Inventory, an average of fourteen (14) freight train movements per day occur on the UPR mainline, in the project vicinity. Freight trains may occur at any time during the day or night. For the purpose of this analysis, it was assumed that the fourteen train movements are equally distributed over a 24-hour day.

Railroad noise exposure may be quantified in terms of the L_{dn} using the following formula:

$$L_{dn} = SEL + 10 \log Neq - 49.4$$

where,

SEL is the average SEL for a train pass-by, Neq is the equivalent number of pass-bys in a typical 24-hour period determined by adding 10 times the number of nighttime movements (10 p.m.-7 a.m.) to the actual number of daytime movements (7 a.m.-10 p.m.). 49.4 is a time constant equal to 10 times the log of the number of seconds in a day.

Using the above-described formula, railroad operations data and noise measurement results, the railroad noise exposure at the closest proposed lots to the UPR line was calculated to be approximately 57dB L_{dn} . Such noise levels do not exceed the applicable City of Fresno exterior noise level standard of 65 dB L_{dn} , and mitigation measures are not required for compliance.

High Speed Train

While construction is not complete and there is no immediate timeline regarding the operations of the high-speed train (HST), noise associated with HST operations was reviewed by WJVA.

According to the Revised HST DEIR/Supplemental DEIS (DEIR/SDEIS) for the Fresno-Bakersfield section of the HST project, the HST will use electrically powered trains capable of operating up to 220 mph over a fully grade-separated, dedicated track alignment. The HST line in the vicinity of the project area is elevated.

There are three major sources of noise associated with HST movements. At speeds up to 160 mph, the electric propulsion system and wheel/rail interaction are the predominant sources. At speeds above 160 mph, aerodynamic sound produced by the airflow moving past the train becomes the dominant source. The HST DEIR/SDEIS analyzed potential noise and vibration impacts from the HST line using the Federal Railroad Administration (FRA) *High-Speed Ground Transportation Noise and Vibration Impact Assessment Report* prepared in 2005 (FRA Guidance Manual). The FRA Guidance Manual is based upon comprehensive noise and vibration measurements conducted in Asia and Europe. The HST DEIR/SDEIS presents a series of tables that summarize projected HST noise levels along the proposed line in terms of the Day-Night Average Level (L_{dn}). The L_{dn} and CNEL are generally considered to be equivalent within +/- 1 dB.

The HST DEIR/SDEIS assumed that there would be 188 trains per day during the daytime hours (7:00 a.m.-10:00 p.m.) and 37 trains during the nighttime hours (10:00 p.m.-7:00 a.m.). For the section of the HST line that would pass through the project area, the projected L_{dn} is 72 dB at distance of 150 feet from the center of the tracks. Noise from the HST line would be expected to decrease with distance from the tracks at the rate of 3.0-4.5 dB for each doubling of distance. That means that the 65 dB L_{dn} contour could be located in the range of 400-750 feet from the center of the tracks. The project site is located approximately 1,750 from the HST line, at which distance noise associated with HST operations would be expected to be approximately 55-60 dB L_{dn} . Such noise levels do not exceed the applicable City of Fresno exterior noise level standard of 65 dB L_{dn} , and mitigation measures are not required for compliance.

Electrical Substation

There is an electrical substation located approximately 500 feet west of the project site. WJVA staff, while positioned in the approximate vicinity of the closest proposed lots to the substation, observed that noise levels associated with substation were not audible over existing ambient noise levels. Noise levels associated with the substation would not impact the project site.

Interior Noise Exposure

The City of Fresno interior noise level standard is 45 dB L_{dn} . The worst-case future noise exposure within the proposed residential development would be approximately 52 dB L_{dn} for the closest proposed lots to N. Thiele Avenue and (potentially) 60 dB L_{dn} for the closest lots to HST line. This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 15 dB (60-45=15).

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 the City's 45 dB L_{dn} interior standard at all proposed lots. 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 proposed 89-lot single-family residential development will comply with applicable City of Fresno exterior and interior noise level requirements provided the following that mechanical ventilation or air conditioning must be provided for all homes so that windows and doors can 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, railroad operations, 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 and railroad technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

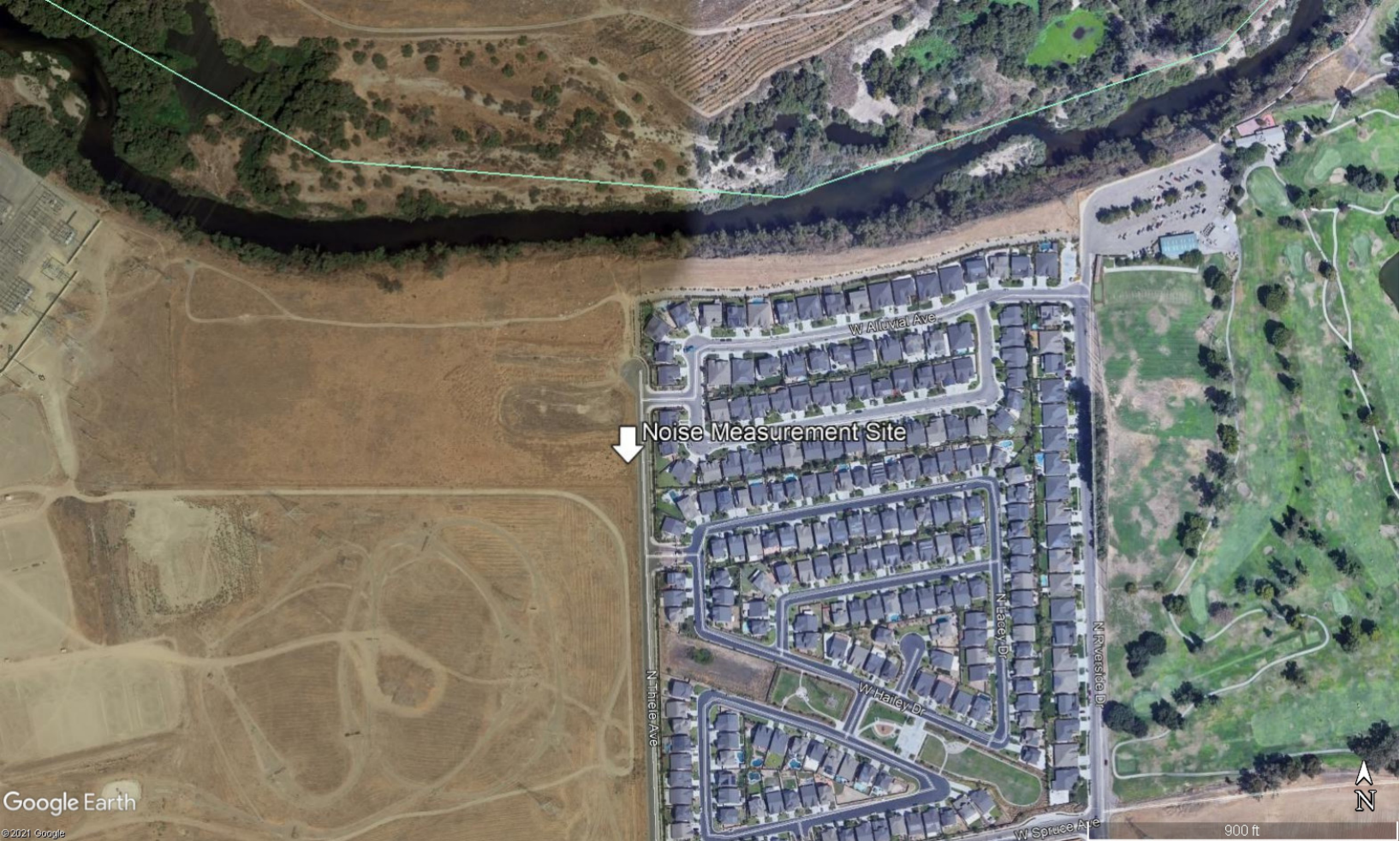
Respectfully submitted,



Walter J. Van Groningen
President

WJV:wjv

FIGURE 2: PROJECT SITE VICINITY AND NOISE MEASUREMENT LOCATION



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:

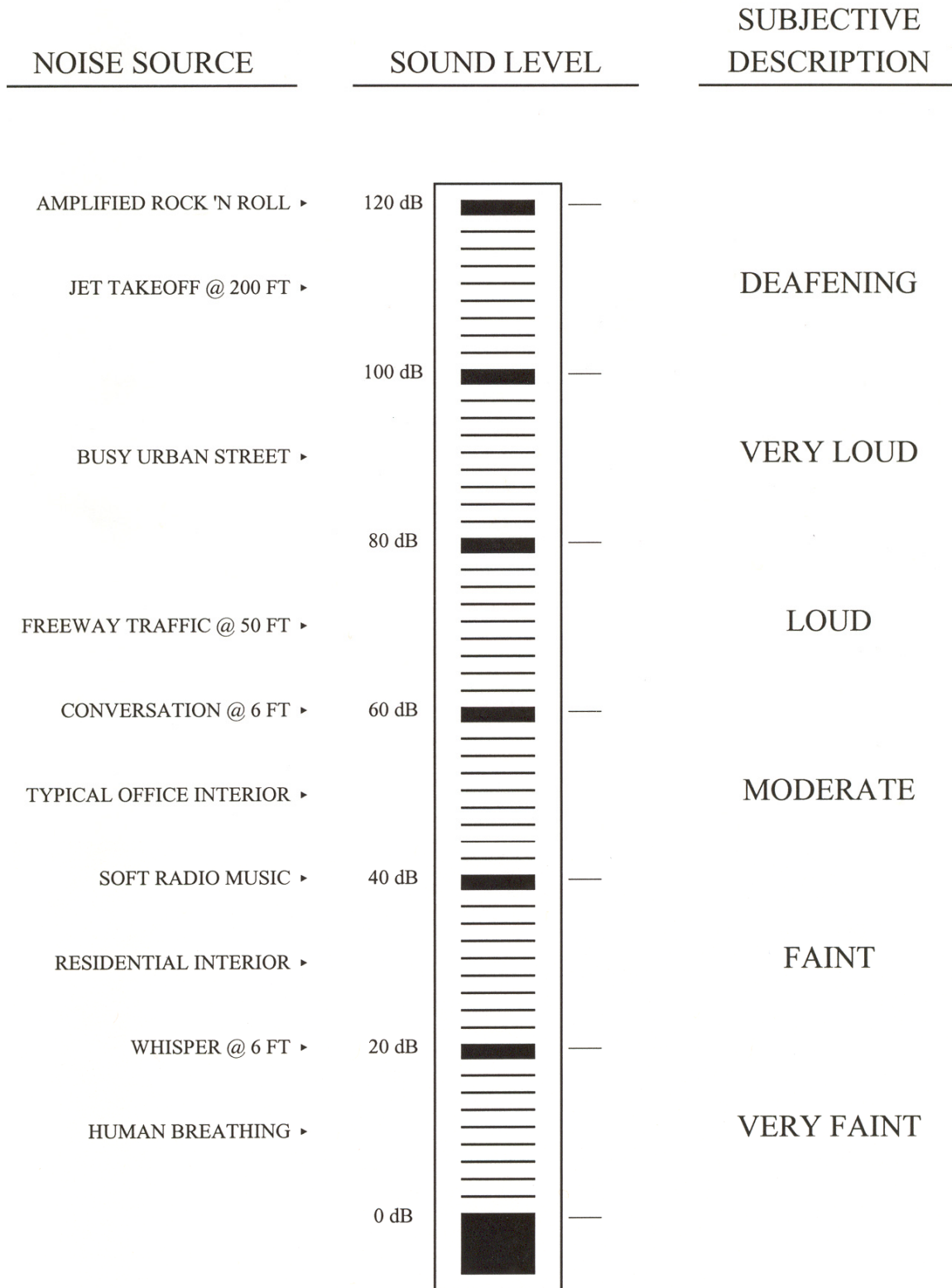
The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective 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 E

Vehicle Miles Traveled Analysis



Fresno COG Vehicle Miles Traveled Analysis Tool Summary Report

Tool Version: Version 1.37 Report Date: 12/29/2021

Project Information

Name:	Tract 6195
Jurisdiction:	Jurisdiction
TAZ ID:	481

Project Land Use

Residential	Single-family:	89	DU	Multi-family:	0	DU
	Total:	89	DU	Percent Affordable:	0	%
Non-Residential	Office:	0	EMP	Others:		TSF

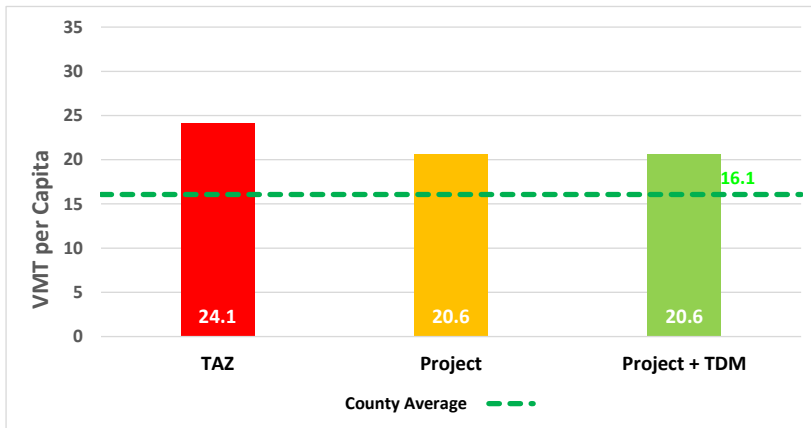
Project TDM measures (VMT reduction strategies)

TDM Strategy	Included in the project	TDM Quantification	% VMT/Capita Reduction	% VMT/Employment Reduction
Implement Project Specific Vanpool Program	No		N/A	
Implement Project Specific Carpool Program	No			N/A

Project VMT Results

Residential

Project's VMT/Capita (20.6) is greater than County VMT/Capita (14.0 using 13% as threshold)



Project VMT per Capita:	20.6
County VMT / Capita:	16.1
Significant Impact:	Yes
Project VMT per Capita with TDM Measures:	20.6
Significant Impact with TDM measures:	Yes

City of Fresno

URBAN FORM VMT CALCULATOR

Basic Information

Project Name:

Applicant/Developer:

Major Cross Streets:

Project Address:

APN(s):

Gross Project Site Area: acres

Baseline VMT from COG Calculator: per capita

Calculation Run By:

Date of Calculation:

Land Use Information

Area dedicated to internal streets (<i>including major streets which are entirely within the project site</i>):	3.4	acres
Area of park space or other public open space:	2.5	acres
Area of landscaping outlots and other space that will not be available for residential and commercial uses:	0.0	acres
Net area of the project site (<i>land available for residential and commercial uses</i>):	11.7	acres
Number of single family dwellings (<i>attached and detached</i>):	89.0	units
Number of multifamily dwellings (<i>including ADUs and duplexes</i>):	0.0	units
Total number of dwellings:	89.0	units
Number of affordable/BMR dwellings (<i>including single-family and multifamily</i>):	0.0	units
Total office space within project:	0.0	square feet
Total retail and other non-residential space within the project (<i>excluding office and industrial</i>):	0.0	square feet
Average Front Setback of Residential Structures:	18.0	feet
Average Front Setback of Non-Residential Structures:	0.0	feet
Number of driveways serving residential uses:	89.0	driveways
Number of driveways serving non-residential uses:	0.0	driveways
Number of dwelling units without dedicated parking:	0.0	units
Number of single family dwelling units with alley loaded parking:	0.0	units
Number of single family dwelling units with recessed garages:	89.0	units
Number of pedestrian entrances into project buildings which face a street and are located within 20 feet of a sidewalk:	89.0	entrances

Project Perimeter and Major Street Connections

Length of project frontage that is adjacent to major streets <i>(including major streets adjacent to the project or within the project)</i> :	0.0	feet
Length of project perimeter that is adjacent to other sites <i>(developed or undeveloped)</i> :	2,110.0	feet
Total Length of project perimeter:	2,110.0	feet
Are there residential uses adjacent to non-residential uses <i>(including those inside and at the edge of the project, and including instances where a non-major street is the boundary)</i> :	Yes	
Length of the boundary between residential uses non-residential uses <i>(including those inside and at the edge of the project, and including instances where a non-major street is the boundary)</i> :	2,110.0	feet
Length of project perimeter that is adjacent to major streets that is occupied by residential uses:	0.0	
Length of project perimeter that is adjacent to major streets that is occupied by non-residential uses:	0.0	
Total number of ungated pedestrian connections <i>(a single street with 2 sidewalks counts as 1)</i> from residential part of project to adjacent non-residential use (including those inside and outside of the project):	1.0	connections
Total number of ungated automobile connections from the residential part of project to adjacent non-residential uses <i>(including those inside and outside of the project)</i> :	0.0	connections
Total number of ungated pedestrian connections <i>(a single street with 2 sidewalks counts as 1)</i> from project to adjacent development sites:	2.0	connections
Total number of ungated automobile connections from project to adjacent development sites:	0.0	connections
Total number of ungated pedestrian connections (a single street with 2 sidewalks counts as 1) from project to adjacent major streets:	0.0	connections
Total number of ungated automobile connections from project to adjacent major streets:	0.0	connections
Total number of controlled intersections on adjacent major streets:	0.0	intersections

Distance between the transit stop serving the project and the nearest pedestrian connection to the project (following safe and legal pedestrian paths, not as the crow flies).

4,794.0

feet

Total length of all major streets within the project (if applicable):

0.0

feet

Total length of all major streets, within the project and at the perimeter:

0.0

feet

Length of major street frontage with tall fencing (over 4 feet in height) or soundwalls:

0.0

feet

Average width of sidewalks on major streets, within the project and at the perimeter:

0.0

feet

Total length in feet of all protected bike lanes and off-street trails:

1,509.0

feet

Internal System of Minor Streets

Does the project have internal minor streets
(include public and private streets)?

Yes

If "No" leave the remaining cells blank and scroll down to see results of Urban Form VMT analysis.

Total length of internal streets (excluding intersections,
and excluding major streets):

2,949.0

feet

Total length of Residential Lot Frontage Facing Internal
Streets:

2,286.0

feet

Total length of Non-Residential Lot Frontage Facing Internal
Streets:

308.0

feet

Total length of all Lot Frontage Facing Internal Streets:

2,594.0

feet

Average block length (This is based on streets, not
frontages. Measure the length of each block along the
centerline of each street between intersections. To count
as an intersection there must be at least three
approaches—elbows do not count. Streets which stub off
at the border of the subdivision cannot be counted as a
block because the distance to the next intersection is
unknown):

570.0

feet

Average local street roadway width:

36.0

feet

Total number of intersections in project
(including those that connect to adjacent major streets):

4.0

intersections

Length of internal streets with two sidewalks:

2,949.0

feet

Length of internal streets with one sidewalk:

0.0

feet

Length of internal streets with no sidewalks:

0.0

feet

Total length of all sidewalks within project:

5,898.0

feet

Average residential sidewalk width:

5.5

feet

Average non-residential sidewalk width:

0.0

feet

Length of internal streets with parkway strips
(4 feet or wider):

0.0

feet

Total number of street trees
(only include those planted within the street right of way):

51.1

trees

Average diameter of street tree canopy, or *spread*, at maturity:

30.0

feet

Total number of pedestrian-scaled street lights (18' feet high or less, within street right of way but not projecting over the roadway):

0.0

lights

Results of Urban Form VMT Analysis

Type of Project:

Residential Project

Baseline VMT For this Location (from COG model):

20.60

per capita

The urban form of this project warrants a VMT reduction of:

4.17%

The adjusted VMT for this project is:

19.74

per capita

The the regional VMT threshold is:

14.01

per capita

This project exceeds exceeds the local VMT threshold by:

5.73

per capita

After analysis of its urban form, does this project still have a VMT impact which must be mitigated through a fee or other meaasure?

YES

City of Fresno

URBAN FORM VMT CALCULATOR

Project Name: Tract 6195
 Type of Project: Residential Project
 Low or High VMT Area? High VMT Area

VMT-Reducing Urban Form Feature		Methodology	Justification	Inputs		Calculations	VMT Reduction
C I R C U L T I O N N E T W O R K	High Intersection Density	Divide the number of intersections (internal and at the perimeter, 3 approaches or more) by the project site area in square miles.	A high degree of circulation network connectivity allows automobile trips to be shorter and more direct, while also increasing the likelihood that short trips will be made on foot or by bicycle.	Total number of intersections in project:	4.0	145.6 intersections per square mile	2.0%
				Project site area (gross) in acres:	17.6		
	Short Block Lengths	Average the length of all blocks in the project, measured in linear feet along the centerline between intersections (3 approaches or more).	A high degree of circulation network connectivity allows automobile trips to be shorter and more direct, while also increasing the likelihood that short trips will be made on foot or by bicycle.	Average block length:	570.0	570.0 feet is the average block length	0.7%
	High Pedestrian Connectivity Between Uses	Divide the number of pedestrian connections (a single street with 2 sidewalks counts as 1) from the residential part of project to adjacent non-residential uses (within or outside of the project), divided by 1,000s of linear feet of adjacency.	A high degree of circulation network connectivity increases the likelihood that short trips will be made on foot.	Total number of ungated pedestrian connections from residential part of project to adjacent non-residential use:	1.0	0.5 pedestrian connections to adjacent project sites per 1,000 feet of adjacency	-0.2%
				Length of residential/non-residential adjacency:	2,110.0		
	High Automobile Connectivity Between Uses	Divide the number of automobile connections from residential part of project to adjacent non-residential uses (in or out of the project), divided by 1,000s of linear feet of adjacency.	A high degree of circulation network connectivity allows automobile trips to be shorter and more direct.	Length of residential/non-residential adjacency:	2,110.0	0.0 automobile connections to adjacent project sites per 1,000 feet of adjacency	-0.2%
				Total number of ungated automobile connections from the residential part of project to adjacent non-residential uses:	0.0		
	High Pedestrian Connectivity to Adjacent Development Sites	Divide the number of ungated pedestrian connections into adjacent developments sites (or stubs if adjacent site is undeveloped) by 1,000s of linear feet of adjacency.	A high degree of circulation network connectivity makes walking a more attractive option.	Total number of ungated pedestrian connections (a single street with 2 sidewalks counts as 1) from project to adjacent development sites:	2.0	0.9 pedestrian connections to adjacent development sites per 1,000 feet of adjacency	-0.7%
			Length of adjacency with other development sites:	2,110.0			
High Automobile Connectivity to Adjacent Development Sites	Divide the number of ungated automobile connections into adjacent developments sites (or stubs if adjacent site is undeveloped) by 1,000s of linear feet of adjacency.	A high degree of circulation network connectivity allows automobile trips to be shorter and more direct.	Length of adjacency with other development sites:	2,110.0	0.0 automobile connections to adjacent development sites per 1,000 feet of adjacency	-0.7%	
			Total number of ungated automobile connections from project to adjacent development sites:	0.0			
Major Street Pedestrian Connectivity	Divide the number of ungated pedestrian connections from project to adjacent major streets by 1,000s of linear feet of frontage adjacent major streets.	A high degree of circulation network connectivity makes walking a more attractive option.	Total number of ungated pedestrian connections (a single street with 2 sidewalks counts as 1) from project to adjacent major streets:	0.0	0.0 pedestrian connections to major streets per 1,000 feet of major street frontage	-0.7%	
			Length of frontage adjacent to major streets:	0.0			

	Major Street Automobile Connectivity	Divide the number of ungated automobile connections from project to adjacent major streets by 1,000s of linear feet of frontage adjacent to major streets.	A high degree of circulation network connectivity allows automobile trips to be shorter and more direct.	Length of frontage adjacent to major streets:	0.0	0.0 automobile connections to major streets per 1,000 feet of major street frontage	-0.7%
				Total number of ungated automobile connections from project to adjacent major streets:	0.0		
	Major Street Permeability	Divide the number of controlled intersections (stop lights or stop signs for all approaches and crosswalks for all pedestrian approaches) by 1,000s of linear feet of frontage adjacent to major streets.	Long spacing between controlled intersections forces people on foot to either make dangerous crossings between intersections, or discourages them from walking altogether.	Total number of controlled intersections on adjacent major streets:	0.0	0.0 controlled intersections per 1,000 feet of major street frontage	-0.7%
	Transit Connectivity	Measure the distance from the nearest transit stop to the nearest pedestrian exit from the project.	A shorter, more direct walk from the project site to a transit stop increases the likelihood that some people will choose to use transit for some trip instead of an automobile.	Distance between the transit stop serving the project and the nearest pedestrian connection to the project.	4,794.0	4794.0 feet between transit stop and nearest pedestrian connection	-0.7%
S T R E E T D E S I G N	Dual Sidewalks	Divide the length of internal streets with two sidewalks by the total length of internal streets.	A lack of sidewalks, even on one side of the street, adds to the inconvenience of walking; in the aggregate such inconveniences discourage walking and turns trips that could be made on foot into automobile trips.	Length of internal streets with two sidewalks	2,949.0	100.0 % of internal streets have dual sidewalks	2.0%
				Total length of internal streets:	2,949.0		
	Wide Residential Sidewalks	Average the width of sidewalks adjacent to residential uses (excluding mixed use structures in this instance), excluding parkway strips.	Wider sidewalks provide comfort and convenience to walkers, encouraging short trips to be made on foot instead of by automobile.	Average residential sidewalk width:	5.5	5.5 feet is the average residential sidewalk width	0.3%
	Wide Non-Residential Sidewalks (Internal Streets)	Average the width of sidewalks adjacent to non-residential uses (including mixed use structures in this instance), including tree wells.	Wider sidewalks provide comfort and convenience to walkers, encouraging short trips to be made on foot instead of by automobile.	Average non-residential sidewalk width (internal streets):	0.0	0.0 feet is the average non-residential sidewalk width	0.0%
	Parkway Strips	Divide the length of internal streets with parkway strips (4 feet wide or wider) by the total length of internal streets.	Parkway strips add to the visual appeal of the street and provide a buffer from automobile traffic, both of which encourage walking.	Total length of internal streets:	2,949.0	0.0% of internal streets have parkway strips	0.0%
			Length of internal streets with parkway strips:	0.0			
	High Street Tree Coverage	Divide the area that can reasonably be expected to be covered by the street tree canopy when the trees are mature by the total area of interior street right of way.	In a hot climate such as Fresno's, a lack of a street tree canopy makes walking very uncomfortable, and at times dangerous. The greenery provided by trees also adds to the visual appeal of the walk. These factors are understood to encourage some short trips to be made by foot or bike instead of automobile.	Total number of street trees:	51.1	Approx. 24.3% of street ROW will be covered by the tree canopy	-0.7%
			Average diameter of street tree canopy, or <i>spread</i> , at maturity:	30.0			
			Area in square feet of right of way for public street dedication for interior streets:	148,539.6			
	Well-Lit Sidewalks	Divide the number of pedestrian-scaled street lights (18' feet high or lower, not projecting over the roadway) by 1,000s of linear feet of sidewalk length.	Dark streets are uninviting to potential walkers in the evening. Many residential streets have very sparse lighting, and most of what is provided is in the form of cobrahead lights which illuminate the roadway more than the sidewalk. Low lights which are spaced closer together, and which are not projected over the roadway, can encourage some short evening trips to be made by foot rather than by automobile.	Total number of pedestrian-scaled street lights:	0.0	pedestrian-scaled street lights per 1,000 feet of sidewalk, or 1 light per 0.0 of sidewalk length	0.0%
			Total length of all sidewalks within project:	5,898.0			
	Protected Bike Lanes and Off-Street Trails	Divide the total length of major streets (within the project and at the perimeter) by the total length of protected bike lanes and off-street trails (within the project and at the perimeter; two-way facilities count as one, one-way facilities count as half).	Protected bike lanes and off-street trails have been shown to be more effective at encouraging bike use than unbuffered bike lanes that are situated between automobile travel lanes and parking lanes.	Total length in feet of all protected bike lanes and off-street trails:	1,509.0	% of major street length is accompanied by a protected bike lane or off-street trail	0.0%
			Total length of all major streets, within project and at the perimeter:	0.0			
	Wide Sidewalks on Major Streets (within the project and at the perimeter)	Average the width of sidewalks on adjacent major streets. Measurement shall be made from the face of the curb to the back of the sidewalk, thereby including tree wells and parkway strips, if applicable. Landscaped areas between the back of the sidewalk and project fences, walls, or buildings may NOT be included.	Wider sidewalks provide comfort and convenience to walkers, encouraging short trips to be made on foot instead of by automobile.	Average non-residential sidewalk width (major streets):	0.0	0.0 feet is the average non-residential sidewalk width	-0.7%

	Narrow Local Streets	Average the width of the roadways of all local streets within the project, measured curb to curb.	Wider roadways encourage faster automobile movement, which reduced safety for walkers.	Average local street roadway width:	36.0	36.0 feet is the average local street roadway width	0.3%
L A N D U S E	Increased Residential Density	Divide the total number of dwelling units (including single family, multifamily, ADUs, and JADUs) by the net area of the project site (total area of project site minus the area of land to be dedicated for public streets and minus parcels with no residential use) in acres.	Higher residential densities can support a greater number of services and jobs nearby, which makes walking, biking, and transit more viable, and can also allow for shorter automobile trips.	Total number of dwelling units: Net area of the project site:	89.0 11.7	7.6 dwelling units per acre, net	0.0%
	Affordable Housing	Divide the number of below market rate (BMR) units (defined here as being deed restricted for at least 40 years to be affordable to residents making 80% of the area median income or less) by the total number of dwelling units.	On average, residents of affordable housing own fewer automobiles, make fewer automobile trips, and travel fewer total miles by automobile than their counterparts in market-rate housing.	Total number of dwelling units: Number of BMR units:	89.0 0.0	0.0 % of the housing is affordable	0.0%
	Mixed Uses, Employment	Divide the number of square feet of office space (defined as gross area within a structure which is used for offices, but excluding warehousing, industrial, and similar uses) within the project boundaries by the total number of dwelling units.	By having high-employment uses within the project, there is a greater likelihood that people will be able to get to work by foot or bike, or that an automobile trip will be shorter than if those uses were farther away.	Total number of dwelling units: Office square footage:	89.0 0.0	0.0 square feet of office space per dwelling unit	0.0%
	Mixed Uses, Retail/Other	Divide the number of square feet of retail and other non-residential space (defined as gross area within a structure which is used for retail, personal services, or other such uses, but excluding warehousing, industrial, and similar uses) within the project boundaries by the total number of dwelling units.	By having non-residential uses within the project, there is a greater likelihood that people will be able to access those uses by foot or bike, or that an automobile trip will be shorter than if those uses were farther away.	Total number of dwelling units: Retail and other non-residential square footage (excluding office):	89.0 0.0	0.0 square feet of retail/other non-residential space per dwelling unit	0.0%
	Public Open Space	Divide the number of acres of park land and other publicly accessible open space within the project boundaries by the total number of residents (assumed to be 3 per dwelling unit).	By having park land within the project, there is a greater likelihood that people will be able to access open space by foot or bike, or that an automobile trip will be shorter than if those uses were farther away.	Total number of dwelling units: Total acres of parkland or other publicly accessible open space:	89.0 2.5	9.4 acres of on-site park land per 1,000 residents	1.0%
	High Pedestrian Entrance Frequency	Divide the number of publicly accessible pedestrian entrances into structures (which face a public street, are within 50 feet of the street, and are not blocked from the street by a full-height fence or wall) by the 100s of feet of street frontage.	A high frequency of entrances means there is a high number of origins and destinations for walking trips; also it makes the walk more interesting and visually appealing. Both of these factors can encourage some trips to be made on foot instead of an automobile.	Number of pedestrian entrances: Total length of all frontage:	89.0 2,594.0	3.4 entrances per 100 feet of street frontage	1.0%
	Reduced Residential Setbacks	Average the front setbacks for all residential structures (excluding mixed use structures in this instance), measured from the back of the sidewalk (or curb when there's no sidewalk) to the primary façade of the structure (excluding the garage).	Buildings that are closer to the sidewalk create a feeling of safety for walkers by providing "eyes on the street," and provide opportunities for friendly interactions. This encourages some short trips to be made by foot instead of in an automobile.	Average front setback of residential structures:	18.0	18.0 feet is the average residential front setback	0.3%
	Reduced Non-Residential Setbacks	Average the front setbacks for all non-residential structures (including mixed use structures in this instance), measured from the back of the sidewalk (or curb when there's no sidewalk) to the primary façade of the structure.	Buildings that are closer to the sidewalk create a feeling of safety for walkers by providing "eyes on the street," and provide opportunities for friendly interactions. This encourages some short trips to be made by foot instead of in an automobile.	Average front setback of non-residential structures:	0.0	0.0 feet is the average non-residential front setback	0.0%
	Low Residential Driveway Density	Divide the number of automobile curb cuts by the 1,000s linear feet of residential frontage. For projects with roll over curb, assume 1 curb cut per garage door.	Driveways cause automobiles to cross the sidewalk, creating danger and discomfort for walkers; this discourages some people from making walkable trips on foot.	Number of driveways serving residential uses: Total length of residential frontage:	89.0 2,286.0	There are 38.9 residential driveways per 1,000 feet, or 1 driveway for every 25.7 feet of residential frontage	-0.3%
	Low Non-Residential Driveway Density	Divide the number of automobile curb cuts by the 1,000s linear feet of non-residential frontage.	Driveways cause automobiles to cross the sidewalk, creating danger and discomfort for walkers; this discourages some people from making walkable trips on foot.	Number of driveways serving non-residential uses: Total length of non-residential frontage:	0.0 308.0	There are 0.0 non-residential driveways per 1,000 feet, or 1 driveway for every 0.0 feet of non-residential frontage	0.0%
Eliminated Residential Parking	Divide the number of dwelling units without dedicated parking by the total number of dwelling units.	Oversupplying parking encourages high automobile ownership and VMT.	Total number of dwelling units: Number of dwelling units without dedicated parking:	89.0 0.0	0.0 % of dwelling units do not have dedicated parking	0.0%	
Alley-Loaded Parking	Divide the number of single family dwelling units with alley loaded parking by the total number of dwelling units.	Street-loaded garages cause a visual environment that is unappealing to walkers, which can discourage some trips from being made on foot.	Number of single family dwelling units with alley loaded parking: Number of single family homes:	0.0 89.0	0.0 % of single family dwelling units have alley loaded parking	0.0%	

Recessed Parking	Divide the number of single family dwelling units with a garage that is recessed behind the primary façade (by 8 feet or more) by the total number of dwelling units.	Street-loaded garages cause a visual environment that is unappealing to walkers, which can discourage some trips from being made on foot.	Number of single family homes:	89.0	100.0 % of single family dwelling units have recessed garages	0.5%
			Number of single family dwelling units with recessed garages	89.0		
Accessible Major Street Frontage	Divide the length of major street frontage by the total length of frontage with fencing or soundwalls greater than 4 feet in height.	Tall walls and fences create an unappealing pedestrian environment due to lack of visibility and interest, which discourages some trips from being made on foot.	Length of frontage adjacent to major streets:	0.0	0.0 % of major street frontage is blocked by tall fencing / soundwalls	2.0%
			Length of major street frontage with tall fencing or soundwalls	0.0		

4.2%

	Project	Source/Formula
VMT per Capita	20.6	FresnoCOG VMT Calculator Tool
Project Features		
Project As-Is	4.17%	0.86 =C4*\$C\$2
Total Reduction	4.17%	0.86 =SUM(D4:D4)
Project VMT per Capita		19.74 =C2-D5
Project VMT per Capita	19.74	=D6
Threshold VMT per Capita	14.01	City of Fresno VMT Guidelines
Lots	89	Tract Map
Persons per House	3.06	Housing Element
Project VMT	5,376	=C10*C11*C8
Threshold VMT	3,815	=C9*C10*C11
Existing Citywide VMT	7,404,806	Recirculated Draft PEIR
Existing + Project	7,410,182	=C15+C12
Existing + Threshold	7,408,621	=C15+C13
Reduction Needed	1,561	=C16-C17
	0.02%	=C18/C16
Bike Lane Mitigation		
0.30% reduction in VMT for every	100 miles	City of Fresno VMT Guidelines
0.02% reduction needed	7.02 miles	=A23/A22*C22
7.02 miles / 100 miles * 0.30% =	0.02% reduction	=A24/C22*A22
Miles of Bike Lanes	7.02	=C23
Feet per mile	5,280	
Total Linear Feet	37,070	=C26*C27
Bike Lane Type	Class II (Restriping)	
Cost per LF	\$ 75.73	=VLOOKUP(C29,A36:C41,3,FALSE)
Total Cost to Mitigate	\$ 2,807,136	=C28*C30
Cost per Home	\$ 31,541	=C31/C10

Cost per LF			Inflation:
Bike Lane Type	2016	2021	16.50%
Class I Trail (Canal)	\$ 300	\$ 349.50	
Class I Trail (Roadside)	\$ 120	\$ 139.80	
Class II (Restriping)	\$ 65	\$ 75.73	
Class II (Widening)	\$ 640	\$ 745.60	
Class III (Sharrow)	\$ 2	\$ 2.33	
Class IV (Buffered)	\$ 75	\$ 87.38	

Source: Active Transportation Plan, Figure 1, US Bureau of Labor and Statistics