PUBLIC REVIEW DRAFT

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

FOR THE

ELDERBERRY RESIDENTIAL DEVELOPMENT

Stockton, CA

City of Stockton Project File No. P18-0146

Public Review Period
July 12 – July 31, 2019

Prepared for:

City of Stockton
Department of Community Development
345 N. El Dorado Street
Stockton, CA 95202

Prepared by:

BaseCamp Environmental, Inc.
115 S. School Street, Suite 14
Lodi, CA 95240
209-224-8213

BaseCamp Environmental

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CITY OF STOCKTON
NOTICE OF INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION / PUBLIC MEETING

ELDERBERRY RESIDENTIAL PROJECT

NOTICE IS HEREBY GIVEN, in compliance with California Environmental Quality Act (CEQA) §15072, to responsible agencies, trustee agencies, interest groups and the general public that the City of Stockton proposes to adopt a Mitigated Negative Declaration for the Elderberry Residential project. (Application No. P18-0146). The Initial Study prepared for the project identifies potentially significant environmental effects under the topics of biological resources, cultural resources, geology and soils, noise, public services, and tribal cultural resources. However, all potentially significant environmental effects may be reduced below applicable thresholds of significance through mitigation measures. The Initial Study/Mitigated Negative Declaration (IS/MND) is available for review at the Permit Center, 345 N. El Dorado Street, Stockton, CA 95202 or http://www.stocktonca.gov/environmental.

PROJECT DESCRIPTION: The project proposes: a) tentative map to subdivide a 17.8-acre site into 43 residential lots and five (5) non-residential lots for an entry/private street/non-exclusive access, common open space area, community center, and existing cell tower site; b) Planned Development Permit to develop the southern 6.6 acres of the overall site (south of Villa Point Drive) into a gated senior single-family residential community with recreational center, common open space, and private street; and c) Design Review for single-story single-family homes.

PROJECT LOCATION: The project is located at 10789 Lower Sacramento Road (APN 084-040-05, 07,and 08).

CEQA DOCUMENT REVIEW PERIOD: Pursuant to CEQA Guidelines §15073 and 15105, the IS/MND public review period during which written comments will be accepted extends from July 12, 2019 through July 31, 2019.

PLANNING COMMISSION MEETING DATE/TIME: To be determined.

MEETING LOCATION: City Council Chambers, City Hall, 425 N. El Dorado Street, Stockton, CA

FOR MORE INFORMATION: You may contact Jenny Liaw, Senior Planner at (209) 937-8316 or jenny.liaw@stocktonca.gov.

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LIST OF ACRONYMS USED IN THIS DOCUMENT

AB	Assembly Bill
ARB	California Air Resources Board
BMP	Best Management Practice
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
dB	decibel
dBA	decibel, A-weighted
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act (federal)
FEMA	Federal Emergency Management Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
IS/MND	Initial Study/Mitigated Negative Declaration
L_{eq}	equivalent continuous sound level
LOS	Level of Service
MRZ	Mineral Resource Zone
NPDES	National Pollutant Discharge Elimination System
NO_x	nitrogen oxide
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
PURD	Planned Unit Residential Development
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SJCOG	San Joaquin Council of Governments

SJMSCP	San Joaquin County Multi-Species Open Space and Habitat Conservation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_x	sulfur dioxide
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWQCCP	Storm Water Quality Control Criteria Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

A. General Project Information

Project Title:	Elderberry Residential Development Project
Lead Agency Name and Address:	City of Stockton Community Development Department 345 North El Dorado Street Stockton, CA 95202
Contact Person and Phone Number:	Wayne LeBaron - (209) 951-7008 Jeff Sanguinetti – (209) 477-0899
Project Location:	Villa Point Drive at Lower Sacramento Road, Stockton, CA (APN: 084-040-05, 084-040-07, and 084-040-08, an existing cellular tower site)
General Plan Designation:	Low Density Residential (APN 084-040-07, 084-040-08) High Density Residential (APN 084-040-05)
Zoning:	RL - Residential, Low Density (APN 084-040-07, 084-040-08) RH – Residential, High Density (APN 084-040-05)
Description of Project:	The project considered in this Initial Study/Mitigated Negative Declaration (IS/MND) consists of several elements, which are discussed below in brief, and in more detail in IS/MND Chapter 2.0. The project site is 17.8-acres. Requested entitlements include a Tentative Subdivision Map, Planned Development Permit (PDP), utility services, extension of Villa Point Drive to Lower Sacramento Road and associated frontage improvements along Lower Sacramento Road. The proposed Tentative Subdivision Map would provide for the subdivision of the southern 6.65 acres of the site for use as a gated single-family residential community, which would be age-restricted for seniors 55 years of age and older. A total of 42 lots would be created ranging in area from 3,500 sq. ft. to 7,500 sq. ft. The typical 41’ by 88’ lots would have reduced front yard setbacks of 18 to

20 feet, one-foot and four-foot side yards on adjacent lots, and 10-foot rear yards.

The overall residential community also would include an entry area and private street access (Lot A), a community center (Lot B), a common open space area (Lot D), and a non-exclusive access lot (Lot E). Lot C, located south of the proposed residential development, contains an existing cell tower. There are no new development plans for Lot C.

Surrounding Land Uses and Setting: The project is located in a developing area at the urban fringe of the City of Stockton. Surrounding land uses consist of:

North, vacant, designated for commercial use, zoned Commercial General (CG)

West, single-family residential, zoned Residential, Low-Density (RL)

South and East, Lower Sacramento Road and agriculture in the jurisdiction of San Joaquin County

Other Public Agencies Whose Approval is Required: None

B. Environmental Factors Potentially Affected

The environmental factors checked below may be significantly affected by this project, involving at least one impact that is a "Potentially Significant Impact" prior to mitigation. Mitigation measures that would avoid potential effects or reduce them to a less than significant level have been prescribed for each of these effects, as described in the checklist and narrative on the following pages, and in the Summary Table at the end of Chapter 1.0.

	Aesthetics		Agriculture/Forestry Resources		Air Quality
✓	Biological Resources	✓	Cultural Resources		Energy
✓	Geology/Soils		Greenhouse Gas Emissions		Hazards/Hazardous Materials
	Hydrology/Water Quality		Land Use/Planning		Mineral Resources
✓	Noise		Population/Housing	✓	Public Services
	Recreation		Transportation/Traffic	✓	Tribal Cultural Resources

	Utilities/Service Systems		Wildfire	✓	Mandatory Findings of Significance

C. Earlier Analysis

Earlier analyses may be used where, pursuant to tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or Initial Study/Negative Declaration [Section 15063(c)(3)(d) of the State CEQA Guidelines]. The previously-certified or adopted environmental document(s) and any applicable adopted mitigation measures, CEQA "findings," Statements of Overriding Considerations, and mitigation monitoring/reporting programs are incorporated by reference, as cited below, and discussed on attached sheet(s) to identify the following:

Earlier Analysis Used - Earlier environmental impact analyses that address project impacts, and that are available for review at the City of Stockton Community Development Department, Planning Division, 345 N. El Dorado Street, Stockton CA, include the following:

> Final EIR and Mitigation Monitoring and Reporting Program, Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements. Adopted December 8, 2018. State Clearinghouse No.: 20170520626
>
> Final Supplemental Environmental Impact Report for the North Stockton Projects Annexation, Elkhorn Point North and Northbrook Residential Tentative Maps, Planned Development Permits and Annexation. August 3, 2005. Final EIR File No.: 4-91. Supplemental EIR File: SEIR 1-05. State Clearinghouse No.: 1992052124

These documents are hereby incorporated by reference into this IS/MND.

D. Lead Agency Determination

On the basis of this initial evaluation:

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

✓ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project and/or mitigation measures that would reduce potential effects to a less than significant level have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. *All applicable mitigation measures are shown in the Summary Table (Table 1-1) at the end of the Initial Study, Chapter 1.0.*

□ 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.

CITY OF STOCKTON

Jenny Liaw, Senior Planner
City of Stockton

7/10/19
Date

1.0 INTRODUCTION

1.1 Project Brief

This document is an Initial Study/Mitigated Negative Declaration (IS/MND) for the Elderberry Residential Project (the project). The project considered in this IS/MND consists of several elements, which are discussed below in brief, and in more detail in IS/MND Chapter 2.0. The 17.8-acre project site is located south of Eight Mile Road, adjacent to and west of Lower Sacramento Road.

The City of Stockton approved a Tentative Map and Planned Development Permit for a prior version of the project in 2006. CEQA review for the project was provided by the Supplemental EIR (SEIR 1-05) for Phase 3 of the North Stockton Projects, including the Elderberry project, which was certified by the City on August 3, 2005, before project approval; this document is cited more specifically in the previous section. The approved Tentative Map was extended periodically in anticipation of a future project by the proponents. However, in 2017, the proponents failed to meet timing requirements for further extension of the Tentative Map, and the previous approval subsequently expired.

This IS/MND has been prepared for the current proposed project in compliance with the requirements of the California Environmental Quality Act (CEQA). The City of Stockton is the CEQA Lead Agency for the project as it is responsible for the local government entitlements needed to permit the project. The required entitlements include approval of the proposed Tentative Subdivision Map, Planned Development Permit (PDP), utility services, extension of Villa Point Drive to Lower Sacramento Road and associated frontage improvements along Lower Sacramento Road.

The Tentative Subdivision Map and PDP provide for subdivision of the southern 6.65 acres of the site into a gated low-density residential community, which would be age-restricted for persons 55 years of age and older. A total of 42 lots ranging from 3,500 sq. ft. to 7,500 sq. ft. in size would be created. Proposed front yard setbacks would be 18 feet and 20 feet, and side yards would be one foot and four feet, on adjacent lots. Each lot would have minimum 10-foot rear yard setbacks.

The overall residential community also includes an entry area and private street access (Lot A), a community center (Lot B), a common open space area (Lot D), and a non-exclusive access lot (Lot E). Lot C, located south of the proposed residential development, hosts an existing cell tower. No new development is proposed for Lot C (an existing cellular tower site).

Villa Point Drive would be extended eastward from its existing terminus to Lower Sacramento Roa as a part of the project; the extension would provide access for the proposed residential project as well as for future high-density residential development north of the site. High-density residential development in this area is an allowable use in the existing Residential, High Density zone and is permitted "by right" as provided in the Stockton Municipal Code. Future development of this site is not addressed in this IS/MND.

The project would dedicate approximately 1.01 acres of land along the west side of Lower Sacramento Road to the City of Stockton for proposed and future street improvements. Extension

of Villa Point Drive will include the installation of City wastewater, potable water and storm drain facilities, and installation of power, phone, gas and other regulated utilities to serve the proposed residential subdivision.

1.2 Purpose of Initial Study

CEQA requires that public agencies document and consider the potential environmental effects of the agency's actions that meet CEQA's definition of a "project." Briefly summarized, a "project" is an action that has the potential to result in direct or indirect physical changes in the environment. A project includes the agency's direct activities as well as related or closely-related activities that involve public agency approvals or funding. Guidelines for an agency's implementation of CEQA are found in the "CEQA Guidelines" (Title 14, Chapter 3 of the California Code of Regulations).

Provided that a project is not exempt from CEQA, the first step in the agency's consideration of its potential environmental effects is the preparation of an Initial Study. The purpose of an Initial Study is to determine whether the project would involve "significant" environmental effects as defined by CEQA and to describe feasible mitigation measures that would avoid significant effects or reduce them to a level that is less than significant. In the event that the Initial Study does not identify significant effects or identifies mitigation measures that would reduce all of the significant effects of the project to a level that is less than significant, the agency prepares a Negative Declaration. If this is not the case – that is, if the project would involve significant effects that cannot be readily mitigated – then the agency must prepare an Environmental Impact Report (EIR). The agency may also decide to proceed directly with the preparation of an EIR without preparation of an Initial Study.

The proposed project is a "project" as defined by CEQA and is not exempt from CEQA consideration. The City of Stockton has determined that the project involves the potential for significant environmental effects and requires preparation of this Initial Study. The Initial Study describes the proposed project and its environmental setting, discusses the potential environmental effects of the project, and identifies feasible mitigation measures that would eliminate the potentially significant environmental effects of the project or reduce them to a level that would be less than significant. The Initial Study considers the project's potential for significant environmental effects in the following subject areas:

Aesthetics
Agricultural Resources
Air Quality
Biological Resources
Cultural Resources
Energy
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Hydrology and Water Quality
Land Use and Planning
Mineral Resources
Noise
Population and Housing
Public Services
Recreation

Transportation/Traffic
Tribal Cultural Resources
Utilities and Service Systems
Wildfire
Mandatory Findings of Significance

The Initial Study concluded that the project would have significant environmental effects, but that all of these effects would be avoided or reduced to a level that would be less than significant with recommended mitigation measures. The project proponent has accepted all of the recommended mitigation measures. As a result, the City has prepared a Mitigated Negative Declaration and has notified the public of its intent to adopt the IS/MND. The time available for comment on the IS/MND is shown in the Notice of Intent.

1.3 Project Background

The project site is located at the intersection corner of Lower Sacramento Road and Villa Point Drive. Nearby Eight Mile Road marks the northern boundary of the Stockton City limits. The project site was in the jurisdiction of San Joaquin County until 1998, when it was included in the North Stockton Project Annexation (NSPA) project. At that time the City had designated the project for Low and High Density Residential in the Stockton General Plan. As part of the annexation approval, the project site was pre-zoned to RL (Residential, Low-Density) and RH, (Residential, High Density) for future residential development; this zoning took effect on annexation of the site to the City.

The NSPA annexation area involved approximately 826 acres of land. Approximately 773 acres of this land was to be pre-zoned, and nine tentative maps totaling approximately 536 acres were submitted for approval. The majority of the NSPA acreage was planned for low, medium and high density residential development, including lands designated for use as single-family residences, apartments, schools, parks and waterways; approximately 47 acres were planned for commercial use.

Following approval of the NSPA in 1999, more-specific subdivision map and other approvals occurred in phases. The first phase included the 772.76-acre pre-zoning, including pre-zoning of the Elderberry site, approval of six of the nine proposed tentative maps and the annexation of approximately 371 acres, or about 45% of the overall annexation area. The next phase encompassed another approximately 113 acres, and included annexation and approval of two tentative maps, one of which included a Planned Development Permit. Phase 3 involved the annexation of the remaining acreage located east of the railroad, including the Elderberry project site (see Figures 1-1 through 1-6).

The potential environmental impacts of residential development of the Elderberry project site have been considered in several previous CEQA review documents, including the EIRs for the 1990 General Plan, the 2035 General Plan (adopted 2007) and 2040 Envision Stockton plan adopted in December 2018. The project site has carried the current Low Density Residential general plan designation, or an equivalent designation, throughout this period. More specifically, the potential environmental impacts of proposed residential development of the Elderberry site were considered in certified EIRs for the North Stockton Annexation Project and the Supplemental EIR for North Stockton Projects Phase III.

For the purposes of this IS/MND, these previous CEQA documents provide primarily environmental background information. Where environmental impact analysis in previous CEQA documents is relevant to consideration of the potential environmental impacts of the current proposed project, the source document is incorporated by reference in Section C of the preceding Initial Study/Mitigated Negative Declaration; the relationship between the source document and the project is specifically identified in Chapter 3.0 of this IS/MND. Other previous CEQA documents of more limited relevance are listed in Section 4.0 References and cited in Chapter 3.0 as appropriate.

1.4 Environmental Evaluation Checklist Terminology

The Initial Study repeatedly uses a few terms and acronyms that are defined here for the reader's convenience. A complete list of acronyms used in the Initial Study is shown following the Table of Contents.

CDD — The Stockton Community Development Department. The CDD is responsible for processing of the various applications related to the project and for independent review and acceptance of the IS/MND.

IS/MND — This proposed Initial Study/Mitigated Negative Declaration.

ODS — The owners, developers and successors-in-interest, meaning the project applicant, property owners, future project owners and other parties with interest or responsibility for the project, now and in the future.

The project's potential environmental effects are evaluated in the Environmental Evaluation Checklist shown in Chapter 3.0. The checklist includes a list of environmental considerations against which the project is evaluated. For each question, the City determines whether the project would involve: 1) a Potentially Significant Impact, 2) a Less Than Significant Impact with Mitigation Incorporated, 3) a Less Than Significant Impact, or 4) No Impact.

A Potentially Significant Impact occurs when there is substantial evidence that the project would involve a substantial adverse change to the physical environment, i.e., that the environmental effect may be significant, and mitigation measures have not been defined that would reduce the impact to a less than significant level. If there are one or more Potentially Significant Impact entries in the Initial Study, an EIR is required.

An environmental effect that is Less Than Significant with Mitigation Incorporated is a Potentially Significant Impact that can be avoided or reduced to a less than significant level with the application of mitigation measures.

A Less Than Significant Impact occurs when the project would involve effects on a particular resource, but the project would not involve a substantial adverse change to the physical environment, and no mitigation measures are required.

A determination of No Impact is self-explanatory.

This IS/MND identifies mitigation measures for the potentially significant environmental effects of the project, as discussed in Chapter 3.0. The City and other agencies have established regulatory requirements that are routinely implemented in conjunction with new development, which also

mitigate environmental impacts. The IS/MND identifies these existing requirements in the analysis of potential environmental impact. "Mitigation measures" as described in this document, are additional measures - ones that are not yet established in law and practice - that are needed to address the project's environmental impacts as required by CEQA.

1.5 Summary of Environmental Effects and Mitigation Measures

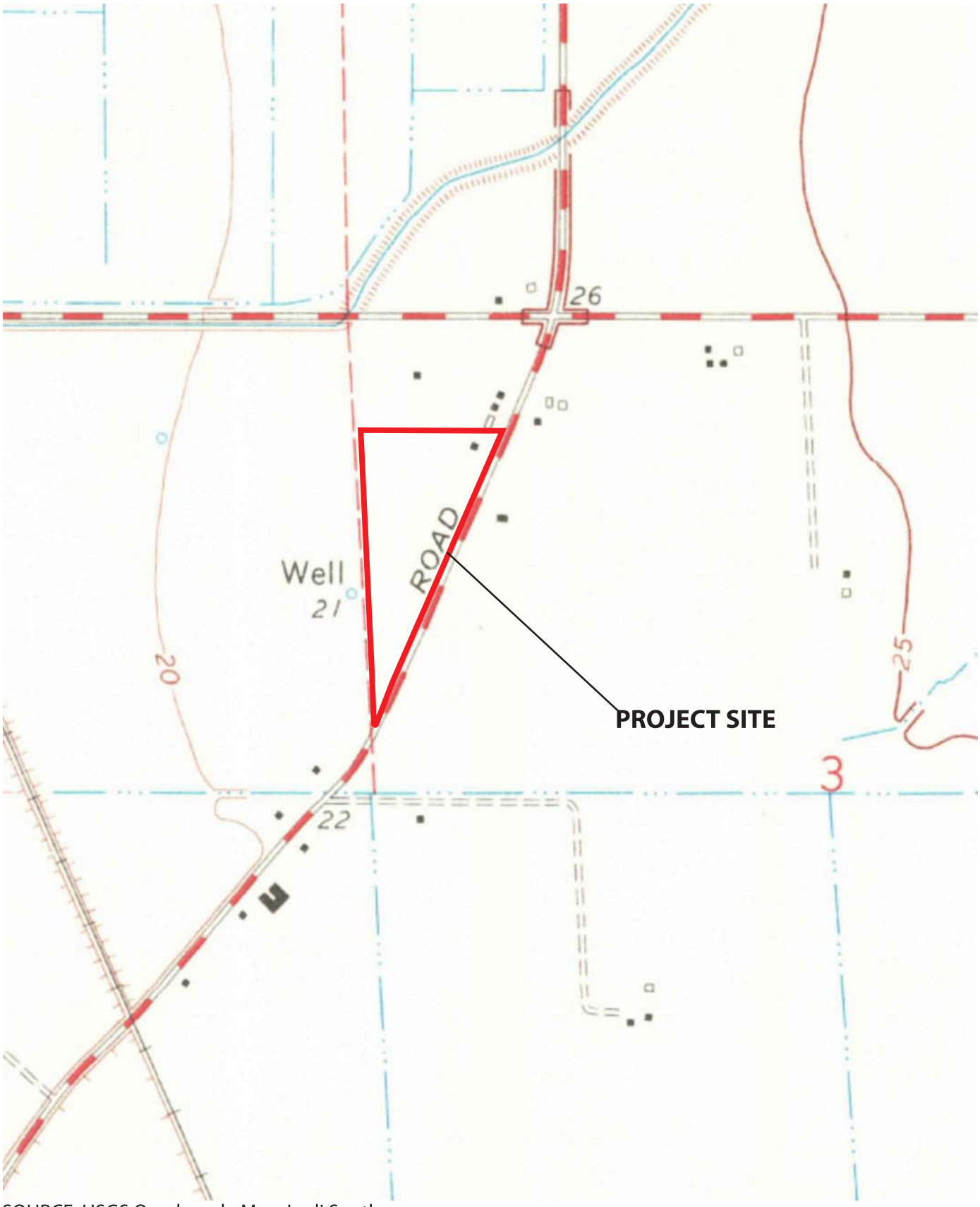
The following pages contain location maps for the project, followed by Table 1-1, Summary of Impacts and Mitigation Measures. The table summarizes the results of the Environmental Checklist Form and associated narrative discussion shown in Chapter 3.0.

The potential environmental impacts of the proposed project are summarized in the left-most column of Table 1-1. The level of significance of each impact is indicated in the second column. Mitigation measures proposed to minimize the impacts are shown in the third column, and the significance of the impact, after mitigation measures are applied, is shown in the fourth column.

Figure 1-1
REGIONAL MAP

SOURCE: Google Maps

Figure 1-2
VICINITY MAP



SOURCE: USGS Quadrangle Map, Lodi South

Figure 1-3
USGS MAP

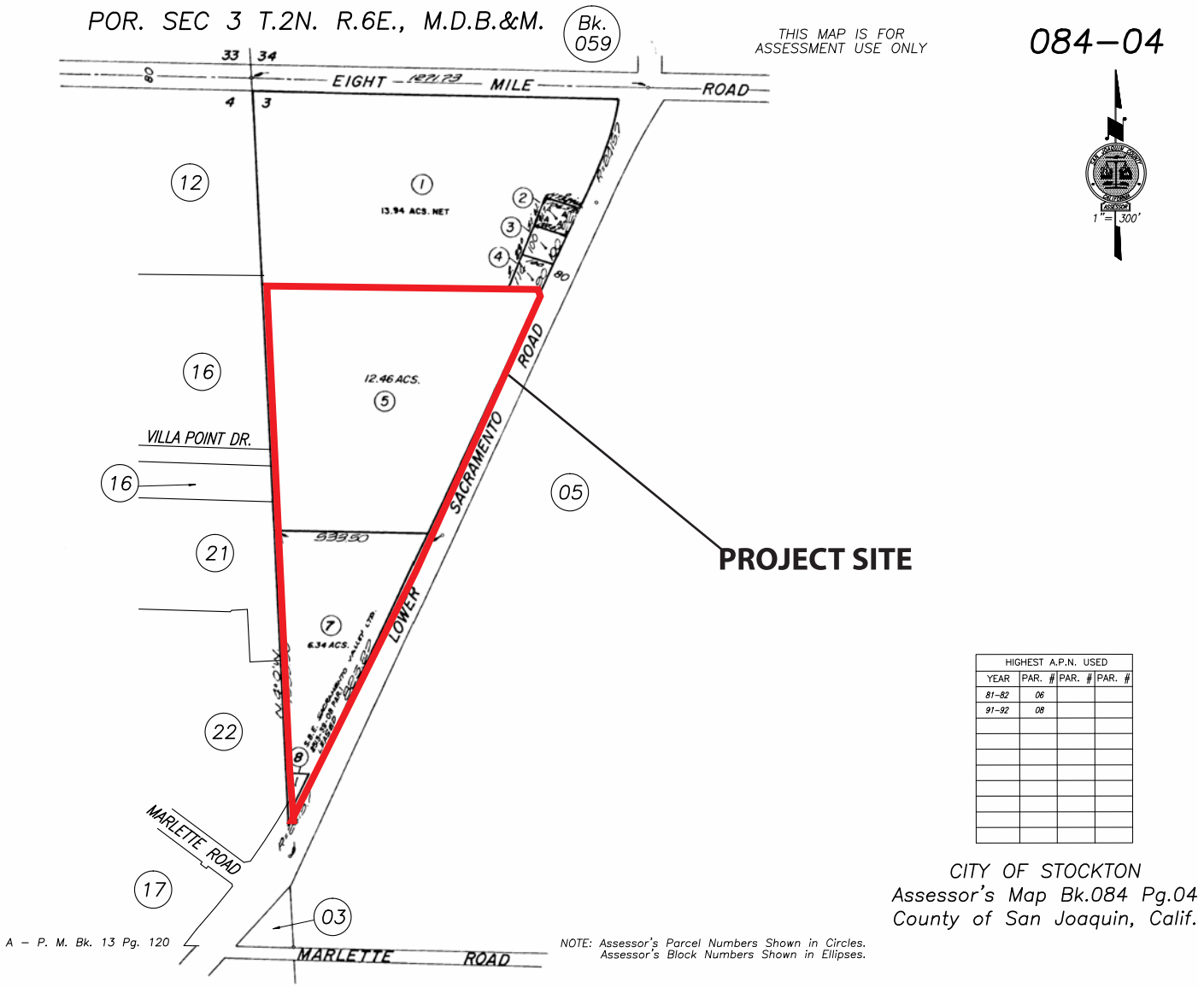
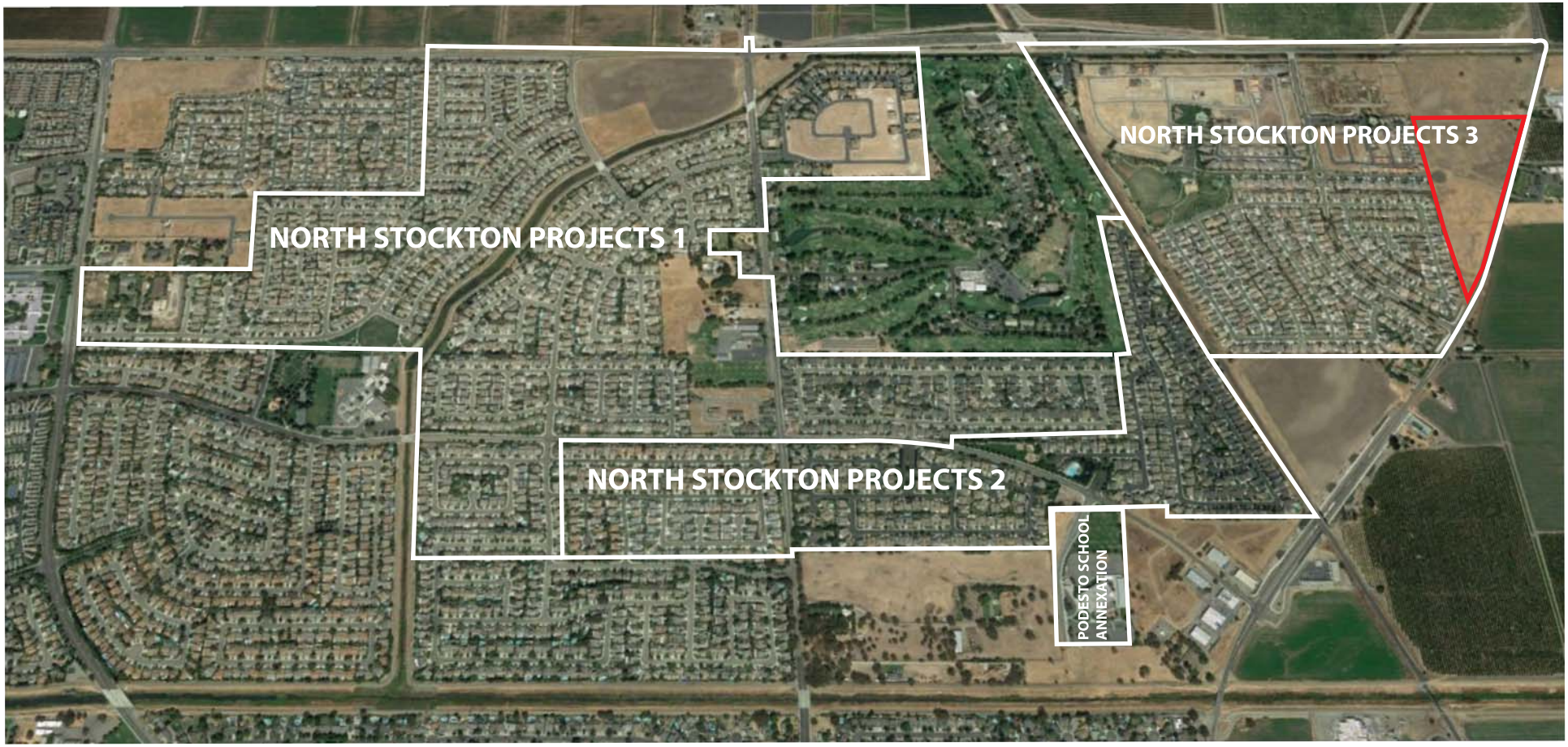


Figure 1-4
ASSESSOR PARCEL MAP

SOURCE: Google Maps

BaseCamp Environmental

Figure 1-5
AERIAL PHOTO



BaseCamp Environmental

Figure 1-6
NORTH STOCKTON PROJECTS PHASES

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
3.1 AESTHETICS			
a) Scenic Vistas	LS	None required	
b) Scenic Resources	NI	None required	
c) Visual Character and Quality	LS	None required	
d) Light and Glare	LS	None required	
3.2 AGRICULTURE AND FORESTRY RESOURCES			
a) Agricultural Land Conversion	NI	None required	
b) Agricultural Zoning and Williamson Act	NI	None required	
c, d) Forest Land Conversion and Zoning	NI	None required	
e) Indirect Conversion of Farmland and Forest Land	LS	None required	
3.3 AIR QUALITY			
a,b) Air Quality Plan Consistency	LS	None required	
c) Cumulative Emissions	LS	None required	
d) Exposure of Sensitive Receptors	LS	None required	
e) Odors	NI	None required	
3.4 BIOLOGICAL RESOURCES			
a) Effects on Special-Status Species	PS	BIO 1: The owners, developers, or successors in Interest (ODS) shall mitigate for the proportionate loss of potential wildlife habitat from proposed residential development by applying for coverage, paying required fees and implementing Incidental Take Minimization Measures (ITMMs) as required by the adopted San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).	LS
b) Riparian and Other Sensitive Habitats	NI	None required	

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
c) Wetlands and Waters of the U.S.	NI	None required	
d) Fish and Wildlife Movement	NI	None required	
e) Local Biological Requirements	NI	None required	
f) Conflict with Habitat Conservation Plans	PS	Implementation of Mitigation Measure BIO-1	LS
3.5 CULTURAL RESOURCES			
a, b) Historical and Archaeological Resources	PS	CULT-1: If any subsurface cultural or paleontological resources are encountered during project construction, all construction activities in the vicinity of the encounter shall be halted until a qualified archaeologist or paleontologist, as appropriate, can examine these materials and make a determination of their significance. If the resource is determined to be significant, recommendations shall be made on further mitigation measures needed to reduce potential effects on the resource to a level that would be less than significant. Such measures could include 1) preservation in place or 2) excavation, recovery and curation by qualified professionals. The CDD shall be notified of any find, and the ODS shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the CDD, consistent with the requirements of the CEQA Guidelines.	LS
c) Paleontological Resources	PS	Implement Mitigation Measure CULT-1	LS
d) Human Burials	PS	CULT-2. Project construction shall comply with the provisions of CEQA Guidelines Section 15064.5(e) regarding the treatment of any human burials encountered, including halting all work in the vicinity of the find and notifying the County Coroner.	LS

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
3.6 ENERGY			
a, b) Project Energy Consumption and Consistency with Energy Plans	LS	None required	
3.7 GEOLOGY AND SOILS			
a-1) Fault Rupture Hazards	LS	None required	
a-2, 3) Seismic Hazards	LS	None required	
a-4) Landslides	NI	None required	
b) Soil Erosion	LS	None required	
c) Geologic Instability	NI	None required	
d) Expansive Soils	PS	GEO-1: Prior to approval of public road and utility improvements, a geotechnical study shall be submitted to the City Engineer addressing potential adverse effects related to expansive soils. The Building Department shall review and approve grading plans, improvement plans and building design for private lands. The City Engineer and/or Building Department shall verify the implementation of geotechnical requirements in the field.	LS
e) Adequacy of Soils for Wastewater Disposal	NI	None required	
3.8 GREENHOUSE GAS EMISSIONS			
a, b) GHG Emission Reduction Plans	LS	None required	
3.9 HAZARDS AND HAZARDOUS MATERIALS			
a, b) Hazardous Material Transport, Use and Storage	LS	None required	
c) Hazardous Materials Releases Near Schools	NI	None required	
d) Hazardous Materials Sites	NI	None required	
e, f) Airport and Airstrip Operations	LS	None required	
g) Emergency Response and Evacuation	LS	None required	

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
h) Wildland Fire Hazards	LS	None required	
3.10 HYDROLOGY AND WATER QUALITY			
a, f) Surface Waters and Water Quality	LS	None required	
b) Groundwater Supplies	LS	None required	
c, d, e) Drainage Patterns and Runoff	LS	None required	
g, h) Residences and Other Structures in 100-Year Flooding Hazards	LS	None required	
i) Other Flooding Hazards	LS	None required	
j) Seiche, Tsunami and Mudflow Hazards	NI	None required	
3.11 LAND USE AND PLANNING			
a) Division of Established Communities	NI	None required	
b) Conflict with Applicable Plans, Policies and Regulations	LS	None required	
c) Conflict with Habitat Conservation Plans	NI	None required	
3.12 MINERAL RESOURCES			
a, b) Availability of Mineral Resources	NI	None required	
3.13 NOISE			
a) Exposure to Noise Exceeding Local Standards	PS	NOISE-1: Site and building plans for any two-story or taller homes located along the eastern boundaries of the project site shall be reviewed by a qualified acoustical professional to ensure that City outdoor and indoor noise standards are met. NOISE-2: Air conditioning or other suitable mechanical ventilation shall be provided in all residential units to allow all residents to close windows and doors to reduce noise levels.	LS
b) Exposure to Groundborne Noise	NI	None required	
c) Permanent Increase in Ambient Noise	LS	None required	

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
d) Temporary or Periodic Increase in Ambient Noise	PS	NOISE-3: Temporary noise impacts resulting from project construction shall be minimized by restricting hours of operation by noise-generating equipment to 7:00 a.m. to 10:00 p.m. Monday through Friday, and to 7:00 a.m. to 6:00 p.m. on Saturday and Sunday when such equipment is to be used near noise-sensitive land uses, and by requiring residential type mufflers where applicable.	LS
e, f) Public Airport and Private Airstrip Operations	LS	None required	
3.14 POPULATION AND HOUSING			
a) Population Growth Inducement	LS	None required	
b, c) Displacement of Housing or People	NI	None required	
3.15 PUBLIC SERVICES			
a) Fire Protection	LS	None required	
b) Police Protection	PS	SERV-1: The ODS shall coordinate with the Stockton Police Department as required during City review of site improvement and building plans to establish adequate security and visibility of the construction site.	LS
c) Schools	NI	None required	
d, e) Parks and Other Public Facilities	LS/NI	None required	
3.16 RECREATION			
a, b) Recreational Facilities	LS	None required	
3.17 TRANSPORTATION/TRAFFIC			
a) Consistency with Applicable Plans, Ordinances and Policies	LS	None required	
b) Conflict with Congestion Management Program	LS	None required	
c) Air Traffic Patterns	NI	None required	

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures		Significance After Mitigation Measures
d) Traffic Hazards	LS	None required		
e) Emergency Access	LS	None required		
f) Conflict with Non-vehicular Transportation Plans	LS	None required		
3.18 TRIBAL CULTURAL RESOURCES				
a, b) Tribal Cultural Resources	PS	TCR-1:	Mitigation Measures CULT-1 and CULT-1 shall also be implemented to address potentially significant effects relating to Tribal Cultural Resources.	LS
		TCR-2:	If potential Tribal Cultural Resources are discovered during construction activities, work shall immediately cease within 100 feet of the find, and the ODS shall: (a) notify the City of Stockton and United Auburn Indian Community; and (b) retain a qualified cultural resources specialist to assess the significance of the find. If the discovery concerns human remains, Mitigation Measure CULT-2 shall apply	
		TCR-3:	The assessment required by Mitigation Measure TCR-2 shall include full participation by the United Auburn Indian Community including, but not limited to, the tribe's ability to observe and participate in all on-site data-gathering activities.	
		TCR-4:	If the City of Stockton determines that a Tribal Cultural Resources are present and that the project would result a substantial adverse change to them, it shall consult the United Auburn Indian Community on appropriate mitigation measures. Said consultation shall include, but not be limited, consideration of those mitigation measures listed at CEQA §21084.3. The ODS shall, in turn, implement those measures to the satisfaction of the City of Stockton.	

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
3.19 UTILITIES AND SERVICE SYSTEMS			
a, e) Wastewater Systems	LS	None required	
b, d) Water Systems and Supply	LS	None required	
c) Stormwater Systems	LS	None required	
f, g) Solid Waste Services	LS	None required	
3.20 WILDFIRE			
a) Emergency Response and Emergency Evacuation Plans	LS	None required	
b) Exposure of Project Occupants to Pollutants	LS	None required	
c) Installation and Maintenance of Infrastructure	LS	None required	
d) Risks from Runoff, Post-Fire Slope Instability, or Drainage Changes	LS	None required	
3.21 MANDATORY FINDINGS OF SIGNIFICANCE			
a) Findings on Biological and Cultural Resources	PS	Implement mitigation measures in Sections 3.4 and 3.5 above.	LS
b) Findings on Individually Limited but Cumulatively Considerable Impacts	LS	None required	
c) Findings on Adverse Effects on Human Beings.	LS	None required	

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

2.0 PROJECT DESCRIPTION

2.1 PROJECT BRIEF

This document is an Initial Study/Mitigated Negative Declaration (IS/MND) for the Elderberry Residential Project (the project). The project considered in this IS/MND consists of several elements, which are discussed below. The 17.8-acre project site is located south of Eight Mile Road, adjacent to and west of Lower Sacramento Road.

The City of Stockton had approved a Tentative Subdivision Map and Planned Development Permit for a prior version of the project in 2006. CEQA review for that project was provided by the Supplemental EIR for Phase 3 of the North Stockton Projects, which was certified by the City before project approval in 2005; this document is incorporated by reference and cited more specifically in Section C of the Initial Study/Mitigated Negative Declaration that precedes Chapter 1.0. NSP Phase 3 included the Elderberry project. The approved Tentative Map was extended periodically in anticipation of a future project by the proponents. However, in 2017, the proponents failed to meet timing requirements for further extension of the Tentative Map and the previous approval subsequently expired.

This IS/MND has been prepared for the current proposed project in compliance with the requirements of the California Environmental Quality Act (CEQA). The City of Stockton is the CEQA Lead Agency for the project as it is responsible for the local government entitlements needed to permit the project. The required entitlements include approval of the proposed Tentative Subdivision Map, Planned Development Permit, utility services, extension of Villa Point Drive to Lower Sacramento Road and specified frontage improvements along Lower Sacramento Road.

This IS/MND relies on several prior CEQA analyses, including the North Stockton Projects Phase 3 EIR and EIRs prepared in connection with adoption of the Stockton General Plan and updates in 1990, 2007 and 2018. These prior documents, which are listed in Section 4.0 of this IS/MND, provide primarily background information for the project. Where these documents are used to providing supporting evidence for the conclusions in Chapter 3.0 of this IS/MND, the source document is specifically referenced and the relationship between the documents is described. Relying on these prior certified CEQA documents allows the IS/MND to be focused on project- and site-specific impacts of the Elderberry project.

The proposed Tentative Subdivision Map (Figure 2-1) and Planned Development (Figure 2-2) provide for the subdivision and development of the southern 6.6 acres of the site as a gated residential community, which would be age-restricted for persons 55 years of age and older. A total of 42 lots would be created for individual homes ranging in size from 3,500 sq. ft. to 7,500 sq. ft. in lot area. The Subdivision Map would also create Lot 43, the approximately 9.33-acre area located immediately north of Villa Point Drive; this area is designated and zoned for high-density residential development. The Subdivision Map would also create lots for common interest uses and existing uses of the site:

Lot A Entry area and private street access

Lot B Community center
Lot C Existing cell tower south of proposed residential area (no new development)
Lot D Common open space area
Lot E Non-exclusive access

The Planned Development element of the project involves variations on Stockton development standards that would promote quality design and innovative site planning within the proposed residential community, consistent with the goals and policies of the General Plan. As required by SMC 16.68, the project includes variations in lot area, frontage, setback, building height, and lot coverage requirements as well as the addition of non-conventional amenities beyond those expected under conventional development. Proposed setbacks on the typical 41-foot by 88-foot lots include varying front yard setbacks of 18 feet and 20 feet and side yard setbacks of one foot and four feet on adjoining lots; rear yard setbacks of 10 feet are proposed. These and larger setbacks are proposed on the atypical trapezoidal lots. Project amenities include designated common open spaces and a community recreation center.

The project would extend Villa Point Drive existing terminus immediately west of the site to a new unsignalized intersection with Lower Sacramento Road as shown on Figure 2-4. The project would dedicate approximately 1.01 acres of land along the west side of Lower Sacramento Road to the City of Stockton for proposed and future street improvements. Extension of Villa Point Drive will include the installation of City wastewater, potable water and storm drain facilities, and installation of power, phone, gas and other regulated utilities to serve the proposed residential subdivision. Villa Point Drive would also provide access for future development of Lot 43.

2.2 PROJECT LOCATION

The proposed project site is located on vacant land located within the City of Stockton, west of Lower Sacramento Road., south of Eight Mile Road and north and south of the Villa Point Drive alignment. The project site includes approximately 17.8 acres of land.

The approximate latitude and longitude of the project site is 38°-30'-13" North and 121°-18'-49" West. It is located within Section 3, a portion of the Township 2 North, Range 6 East, MDBM on the Lodi South 7.5-minute USGS quadrangle map. The project site includes Assessor's Parcel Numbers 084-040-05, 084-040-07, and 084-040-08.

2.3 SURROUNDING LAND USES

The project site is an undeveloped portion of the North Stockton Project Annexation, a planned urban development approved by the City in the 1990s. The site itself is vacant; land uses immediately surrounding the site include:

West. Master-planned residential subdivisions, including the Destinations and Northbrook developments;

North. A vacant parcel designated and zoned for commercial use;

East and South. Lower Sacramento Road, an urban arterial road bounds the site on the east. Across Lower Sacramento Road is active agriculture, a church and small business in the unincorporated area.

2.4 PROJECT OBJECTIVES

The project objective is to obtain City approval of the proposed Tentative Subdivision Map and Planned Development Permit application, which would allow for the proposed development of 42 single-family senior (55 plus) residences and associated site improvements in the southern portion of the site.

2.5 PROJECT CHARACTERISTICS

The proposed project involves current applications for City of Stockton approvals that would permit residential development of approximately 6.65 acres of the 17.8-acre project site. City approvals would include a Tentative Subdivision Map, a Planned Development (PD) Permit as well as related street, utility and other site improvements.

Tentative Subdivision Map

The proposed Tentative Subdivision Map (TSM) (Figure 2-1) would create 42 low-density residential lots, as well as Lots A-E (Table 2-1); the proposed uses of these lots are described in more detail below. The TSM would also create Lot 43, the northern 9.33 acres of the site, which is designated and zoned for high-density residential development. High-density development of this parcel would occur "by-right" per the Stockton Development Code and is not subject to CEQA environmental review in this document. The Tentative Subdivision Map would also provide for the dedication of right-of-way for future widening of Lower Sacramento Road and for construction of the public street portions of Villa Point Drive.

Proposed residential lots would range in size from approximately 3,600 square feet, the prevailing size, to about 5,500 square feet; however, a few larger lots would be available at up to 7,500 square feet.

Planned Development Permit

The proposed residential development would consist of a gated, 42-lot planned residential community, known as a "Planned Development" (PD), with a minimum resident age requirement of 55 plus years. By definition, a PD project incorporates modified development standards and non-conventional amenities that together meet the requirements of Section 16.68 of the Development Code. Section 16.68 provides that the City may approve development projects that promote creative and imaginative planning and result in high quality development that warrants modification of development standards.

PD projects must incorporate non-conventional amenities that include community recreational and meeting facilities, parks and play fields, swimming pools and enhanced architectural, landscaping, water features and similar amenities of a permanent nature. PD projects must be consistent with the allowable land use and development density specified in the underlying

zoning district and fully comply with the purpose and intent of the General Plan. In this context, however, Section 16.68 permits variations from ordinary Development Code requirements for lot area, lot frontage, building setbacks, building height and lot coverage, provided that these variations are defined in the Planned Development Plan. Open spaces are typically a major PD element that must be designed, irrigated, maintained as described in the PD plan.

The project would be consistent with applicable general plan and zoning requirements including development density standards; the proposed gross density approximately 6.0 units per gross acre compared with 6.1 units per gross acre allowed in the Stockton General Plan. The project would involve a net density of 6.3 units per net acre as compared to Development Code maximum of 8.7 per net acre. Proposed variations in development standards would include reduced side yard setbacks, including zero lot line, reduced minimum lot size and coverage. Proposed setbacks on the typical 41-foot by 88-foot lots include varying front yard setbacks of 18 feet and 20 feet and side yard setbacks of one foot and four feet on adjoining lots; rear yard setbacks of 10 feet are proposed. These and larger setbacks are proposed on the atypical trapezoidal lots.

The proposed project would include a range of common areas including the entry area, paved private streets, a private community center and recreational open space, a 0.33-acre recreational open space and landscaped open space yard areas maintained by the Homeowners Association. The project common interest areas are listed in Table 2-1 and described in the following text. Open space within the project amounts to a total of 26% of the overall PD area.

TABLE 2-1
SUMMARY OF OPEN SPACE / COMMON AREA

Gross P.D. Area	6.65 Acres (±)
Lot A (Private Street A.C. Area – HOA)	42,290 Sq. ft. (±)
Lot A (Entry Area – HOA)	1,871 Sq. ft. (±)
Lot B (Community Center – HOA)	8,827 Sq. ft. (±)
Lot D (Common Area – HOA)	14,502 Sq. ft. (±)
Lot E (Non-Exclusive Access Lot – HOA)	2,980 Sq. ft. (±)
HOA Area (Lots 1 thru 17)	15,224 Sq. ft. (±)
HOA Area (Lots 18 thru 34)	21,220 Sq. ft. (±)
HOA Area (Lots 35 & 36)	4,269 Sq. ft. (±)
HOA Area (Lots 37 thru 43)	9.730 Sq. ft. (±)
Note: 26.1% Open Space	

Lot A, approximately 42,290 square feet (SF) includes the proposed subdivision entry/exit area as well as a 34-foot-wide private street providing circulation within the residential area; the private street would be built to City of Stockton standards.

Lot B, approximately 8,827 SF, is immediately west of the proposed residential entry and would provide a site for the development of a private community center and open space.

Lot C is located outside the PD area, immediately south of the senior residential development. This 0.25-acre lot is the site of an existing cell tower. No new development is planned or proposed for Lot C.

Lot D would provide 14,502 SF of common open space inside the PD area, adjacent to Lower Sacramento Road, for the use of residents.

Lot E is 2,960 SF located immediately south of proposed lots 37 and 38 within the PD area; this area is reserved for non-exclusive access to lots 37 and 38.

Transportation and Utility Improvements

Villa Point Drive would be extended from Lower Sacramento Road west to join the existing section of Villa Point Drive at the west boundary of the site. Villa Point Drive, located within a 52 to 66-foot right-of-way, would provide two through traffic lanes and a left-turn pocket and taper at the proposed entrance to the residential project. The public street would be widened to provide a transition to the PD project entry and to a future entry point for high-density residential development on Lot 43.

The proposed age-restricted (55 and older, hereafter referred to as "55+") residential development will include development of a community center on Lot B, a gated entry and a common open space on Lot D. Age restrictions will be included in the project Covenants, Conditions and Restrictions (CC&Rs). Water, wastewater and storm drainage facilities as well as electrical, gas and communication lines would be extended from existing facilities in Villa Point Drive along the proposed private street to serve each lot. Storm drainage would be collected in a new storm drain, which would connect to the existing storm drainage system in Villa Point Drive that extends west to an existing storm drainage detention and storm water quality facility located in Pitt Park.

The proposed project includes interim improvements to the intersection of Lower Sacramento Road and Villa Point Drive in conjunction with the proposed 55+ residential development. The project would extend the paved section of Villa Point Drive paving to the existing Lower Sacramento Road section and install acceleration and deceleration tapers to the north and south. An interim traffic barrier island known as a "pork chop" will be placed on Villa Point Drive restricting turning movements at this location to right-in and right-out movements to and from Lower Sacramento Road. No other Lower Sacramento Road frontage improvements would be installed in conjunction with the proposed 55+ residential development.

The Planned Development would be surrounded by a proposed 6-foot masonry wall.

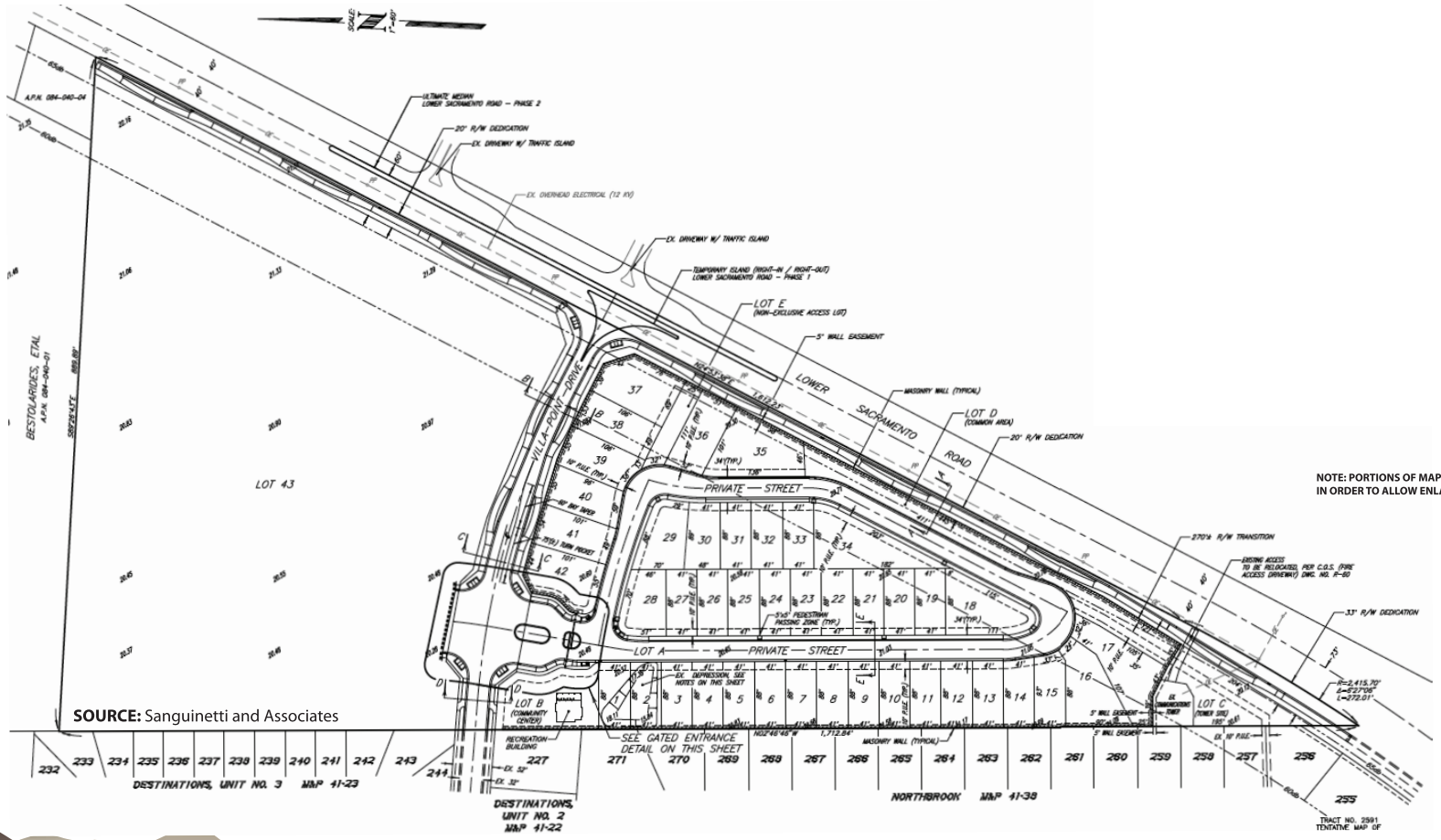
The proposed project would include creation of a Home Owners Association (HOA) for the 55+ residential development. The HOA would be responsible for maintenance of the proposed private street, noise walls, common areas, community center, front yards and other landscape areas within the PD area. Individual lot owners would be responsible for maintenance of their own rear yards and fences.

Per Council direction a Policy to establish a citywide services and maintenance Community Facility District (CFD) is being developed. Proponents were advised of the potential establishment of a citywide CFD and the project will be required to comply with the applicable requirements of the new CFD to assist with financing for necessary services.

2.6 REQUIRED PERMITS AND APPROVALS

The proposed project would require the following discretionary permits and approvals:

Design Review (Architectural Review Committee)	Single-Family Residences
Stockton Planning Commission	Tentative Subdivision Map, Planned Development Permit
Stockton City Council	Appeals to Planning Commission approvals, if any
	Amendment of Storm Water Master Plan for North Stockton Phase 3
Stockton City Engineer, Public Works Director	Subdivision Improvement Plans



SOURCE: Sanguinetti and Associates

Figure 2-1
PROPOSED SUBDIVISION MAP

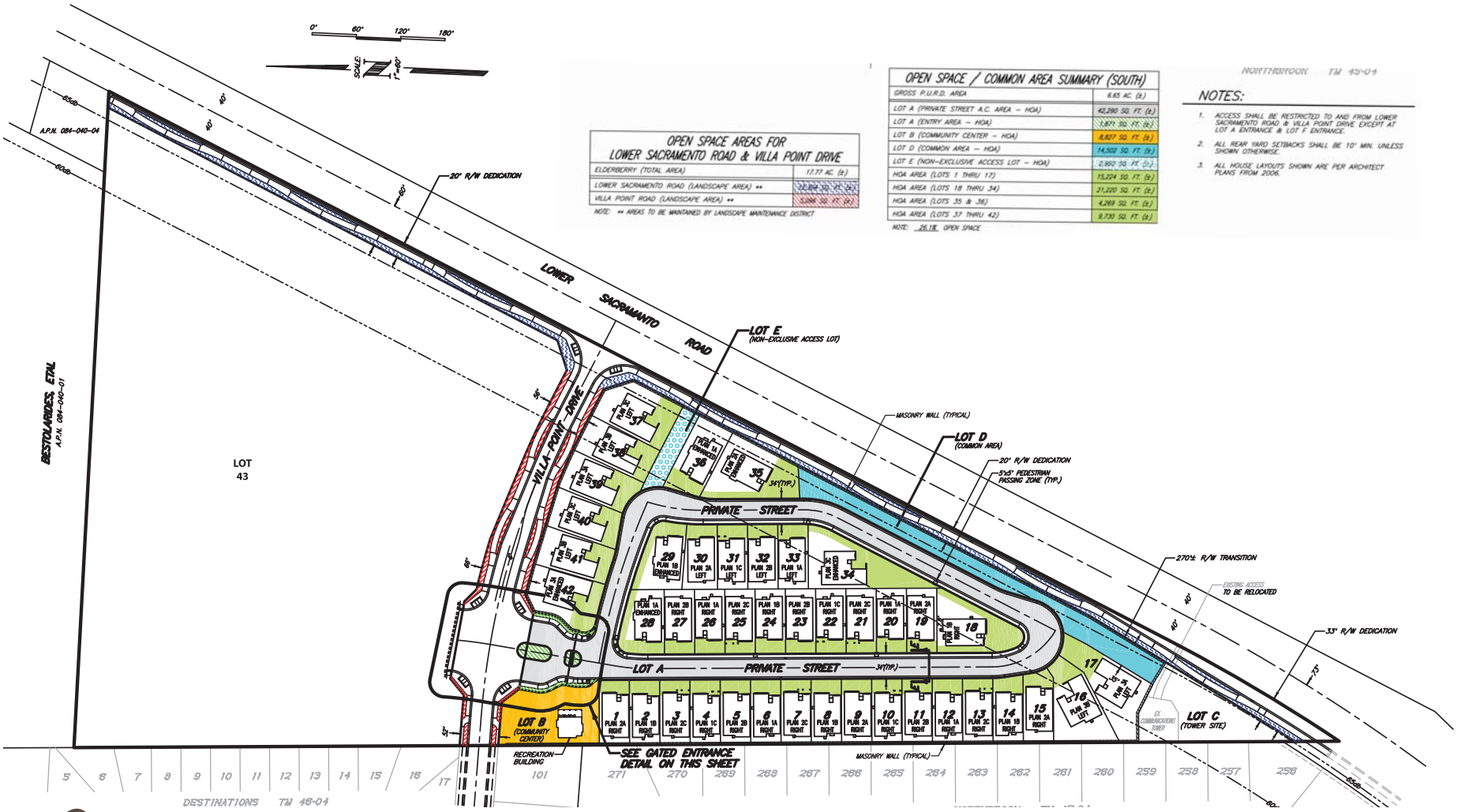


Figure 2-2
PLANNED DEVELOPMENT PLAN

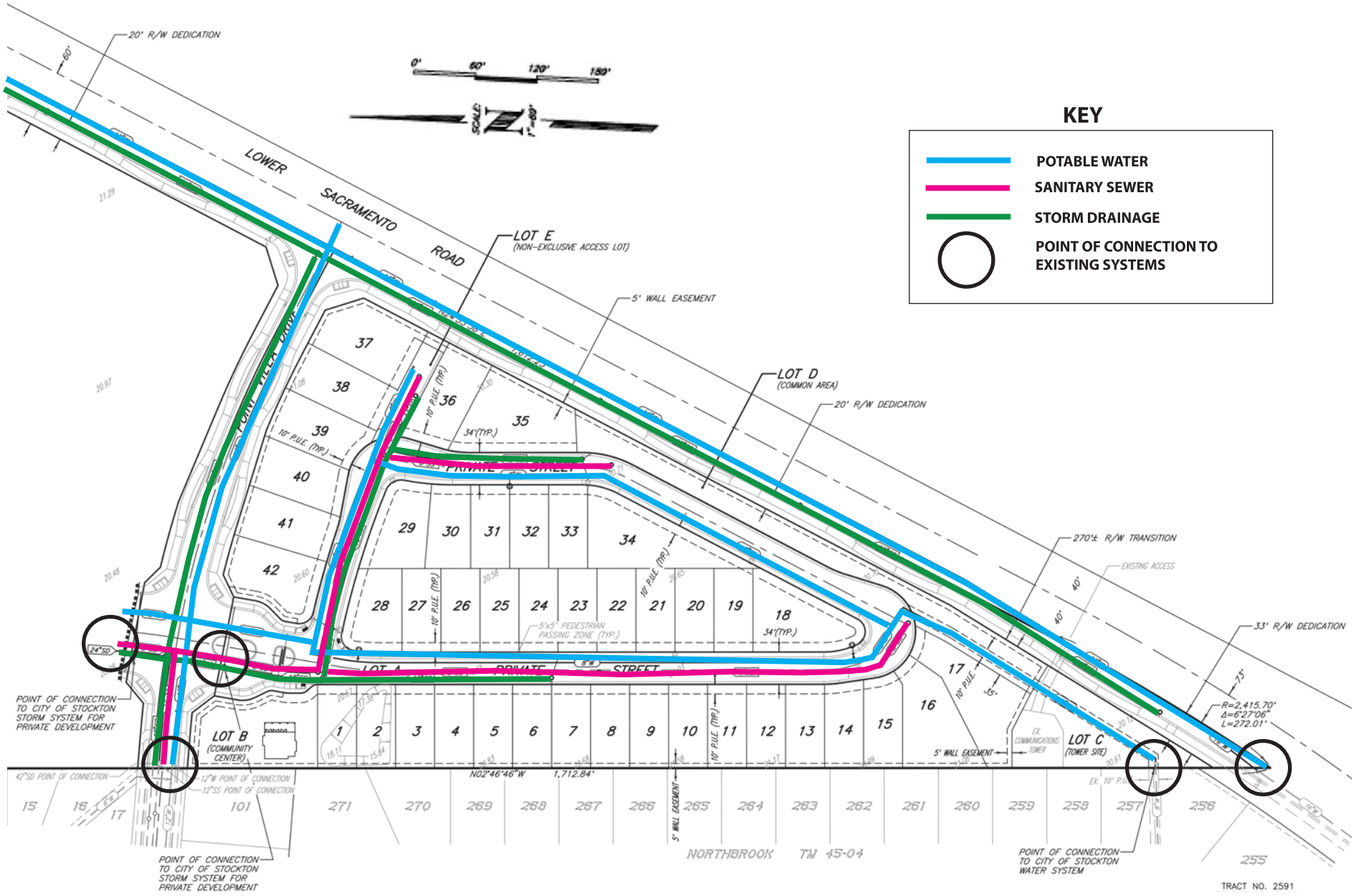
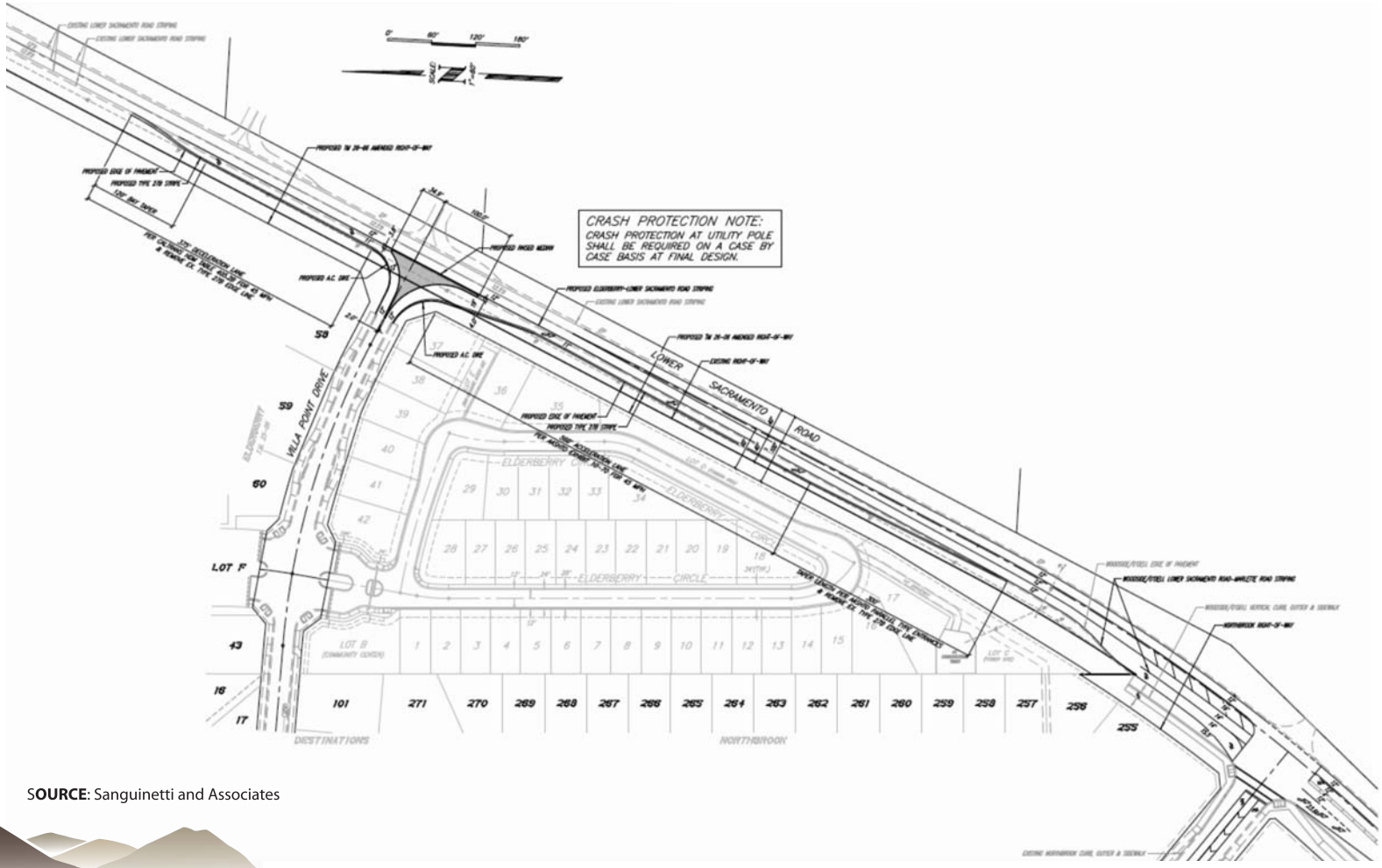


Figure 2-3
UTILITY PLAN



SOURCE: Sanguinetti and Associates

BaseCamp Environmental

Figure 2-4
LOWER SACRAMENTO ROAD IMPROVEMENTS

3.0 ENVIRONMENTAL CHECKLIST FORM

3.1 AESTHETICS

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?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

NARRATIVE DISCUSSION

Environmental Setting

The project site is currently vacant land vegetated with non-native grasses and weeds; some trash and debris were noted on the site. Approximately six ornamental trees are located near the north line of the project site (north line of Lot 43). On Lot C in the southern-most portion of the project site is an existing fifty-foot telecommunication tower. An approximate six-foot masonry wall borders the project site along the west boundary of Lot 43; the west boundary of the site south of Villa Point Drive is marked by a wooden fence. Lower Sacramento Road bounds the site to the east; lands east of Lower Sacramento Road are in agricultural use.

Land to the north of the site is also vacant; this site has been annexed to the City and is zoned and approved for future commercial use. Beyond that is Eight Mile Road and Pixley Slough; the slough is confined by a levee, limiting distance views from the site to the north. In views from the project site to the east, wooden poles supporting utility lines are prominent as is the adjacent section of Lower Sacramento Road; further east, a church, and agricultural land are visible. Views to the west of the site are of existing and ongoing residential development.

The project site and surrounding streets do not offer scenic vistas, and there are no existing designated scenic roads or highways in the project vicinity (Caltrans 2015). Existing night lighting in the project area consists mainly of street lighting in the developed residential areas to the west and at the Lower Sacramento Road intersections with Eight Mile Road and Marlette Road.

Environmental Impacts and Mitigation Measures

a) Scenic Vistas.

Scenic vistas typically mean distance views of relatively scenic resources. The area west of the site is substantially developed and provides no scenic vistas from the site. Partial scenic views are available to the north and east but are limited by the Pixley Slough levee, by nearby development and by overhead utility lines. Lands to the east are also designated for urban development but have not been annexed to the City; the City has entertained development proposals on these lands in the 2000s.

The project proposes construction of single-story homes in the southern portion of the site. Lands immediately north of Lot 43 have also been designated and zoned for commercial development.

Proposed and future residential development would partially obstruct views presently available from single-family residences west of the site, and these views are already obstructed by existing fences or masonry walls. Project impacts on scenic vistas are considered less than significant.

b) Scenic Resources.

The 2005 EIR for North Stockton Projects Phase 3 indicates thirteen trees were located on or near the project site; however, a site visit conducted by BaseCamp Environmental in April 2018 discovered only six remnant ornamental trees were still present on the project site; these trees are located along the northern boundary of Lot 43 and would not be affected by proposed development of the 55+ residential community. There are no other potentially scenic resources on the project site, which is a vacant parcel mostly covered with grasses and weeds. There are no scenic highways in the area. The project would have no impact on scenic resources.

c) Visual Character and Quality.

The project once developed would be consistent with the substantially urban landscape adjacent to the site as well as planned urban development in the vicinity. As noted, the site is vacant and vegetated only with grasses, weeds, and a few remnant ornamental trees. Construction of new residential structures associated the project as well as landscaping along the street frontages of the site would generally improve the aesthetics of the site consistent with other existing and planned urban development of the area. Proposed structures and site improvements would be subject to Design Review and adopted City design standards. The project would construct a 6-foot masonry wall along Lower Sacramento Road which would separate residential development from travelers along Lower Sacramento Road or viewers in the agricultural areas opposite the site. The project would have a less than significant effect in this issue area.

d) Light and Glare.

The proposed project would involve the installation of streetlights along the proposed public and private street alignments, spaced according to City standards. Although new lighting would be established by the project, the lighting would be located in an area planned for residential use, installed per City standards and oriented internally, within the proposed subdivision. The project would therefore have less than significant light or glare impacts.

3.2 AGRICULTURE AND FORESTRY RESOURCES

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?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			✓	

NARRATIVE DISCUSSION

Environmental Setting

The project site and surrounding areas have historically been used for agriculture. In recent years, however, urban development has displaced much of the agriculture in the area, including residential development immediately west of the site. The project site is a vacant parcel and has not been in active agricultural use since 1982. It is designated in the current Stockton 2040 General Plan for low-density and high-density residential use. Land to the north of the project site is designated and zoned for commercial use; and agricultural lands to the south and east are also designated by the City for future urban development.

The Important Farmland Maps, prepared by the California Department of Conservation as part of its Farmland Mapping and Monitoring Program, designate the viability of lands for farmland use, based on the physical and chemical properties of the soils. The maps categorize farmland, in decreasing order of soil quality, as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," and "Farmland of Local Importance." Collectively, these categories are referred to as “Important Farmland.” There are also designations for grazing land and for urban/built-up areas, among others. According to the 2014 Important Farmland Map of San Joaquin County, the project site is designated as Farmland of Local Importance; the project site has the

same farmland designation in the current (2040) Stockton General Plan.

The Williamson Act is State legislation that seeks to preserve farmland by offering property tax breaks to farmers who sign a contract pledging to keep their land in agricultural use. The project site is not under a Williamson Act contract.

There are no forest lands on the project site or in San Joaquin County. Because of this, forestry resources will not be discussed further in this document.

Environmental Impacts and Mitigation Measures

a) Agricultural Land Conversion.

As noted above, the project site is not in agricultural use. According to the Farmland Mapping and Monitoring Program, it is Farmland of Local Importance, which does not fall within the three categories of concern under Section 3.2(a). Thus, the project would not convert Important Agricultural Land as defined by CEQA to non-agricultural land. Project impacts would have no impact on Farmland Conversion.

b) Agricultural Zoning and Williamson Act.

The project site is not zoned for agricultural use, and it is not under a Williamson Act contract. The project would have no impact related to these issues.

c, d) Forest Land Conversion and Zoning.

As noted above, there are no forest lands on the project site or in the vicinity. The project would have no impact on forest lands.

e) Indirect Conversion of Farmland and Forest Land.

The project is in an area that is designated for urban development and that is largely developed; the alignment of Villa Point Drive currently bisects the project site and has been planned and designed in anticipation of the proposed project. The project would not involve any activity that would indirectly convert agricultural land to non-agricultural uses. Agricultural lands to the east are separated from the project site by Lower Sacramento Road and in addition, the proposed project would construct a six-foot masonry wall along the east boundary of the site. As previously noted, there are no forest lands in the vicinity. The project would have less than a significant impact on indirect conversion of farmland or forest land.

3.3 AIR QUALITY

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 Attainment Plan?			✓	
b) Violate any air quality standard or contribute to an existing or projected air quality violation?			✓	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			✓	
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?				✓

NARRATIVE DISCUSSION

Environmental Setting

Air Quality Status

The project site, along with the City of Stockton and San Joaquin County, is in the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over most air quality matters in the Air Basin. The SJVAPCD is tasked with implementing programs and regulations required by both the federal and California Clean Air Acts. Under their respective Clean Air Acts, both the federal government and the State of California have established ambient air quality standards for six criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. California has four additional criteria pollutants under its Clean Air Act. Table 3-1 shows the current attainment status of the Air Basin relative to the federal and State ambient air quality standards for criteria pollutants. Except for ozone and particulate matter, which are discussed below, the Air Basin is in attainment of, or unclassified for, all federal and State ambient air quality standards.

Air Pollutants of Concern

The San Joaquin Valley Air Basin is designated a non-attainment area for ozone. Ozone is not emitted directly into the air; instead, it is formed when reactive organic gases (ROG) and nitrogen oxides (NO_x) emitted into the atmosphere react in the presence of sunlight. Ozone is a respiratory irritant that increases susceptibility to respiratory infections and an oxidant that can cause substantial damage to vegetation and other materials. The SJVAPCD has adopted a 2016 Ozone

Plan for the 2008 8-Hour Ozone Standard and a 2013 Plan for the Revoked 1-Hour Ozone Standard for the Air Basin to attain federal ambient air quality standards for ozone.

TABLE 3-1
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS

Criteria Pollutant	Designation/Classification	
	Federal Primary Standards	**State Standards**
Ozone - One hour	No Federal Standard	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide (NO_x)	Attainment/Unclassified	Attainment
Sulfur Dioxide (SO_x)	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Note: Federal primary standards are those designed to protect human health.
Source: SJVAPCD 2015a

The Air Basin is also designated a non-attainment area for respirable particulate matter, a mixture of solid and liquid particles suspended in air. Particles include dust, pollen, soot, smoke, and liquid droplets. In San Joaquin County, particulate matter is generated by a mix of rural and urban sources such as agricultural activities, industrial emissions, vehicle traffic on unpaved roads, and secondary aerosols formed by reactions in the atmosphere. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled; consequently, both the federal and state air quality standards for particulate matter apply to particulates 10 micrometers or less in diameter (PM_{10}) as well as to particulates 2.5 micrometers or less in diameter ($PM_{2.5}$), which are carried deeper into the lungs. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. The SJVAPCD has adopted the 2016 Moderate Area Plan for the 2012 PM2.5 Standard, the 2015 PM2.5 Plan for the 1997 federal PM2.5 standard, the 2012 PM2.5 Plan for the 2006 federal PM2.5 standard, and the 2007 PM10 Maintenance Plan to maintain the Air Basin's attainment status of the federal PM10 standard. The SJVAPCD is currently in the process of developing an attainment strategy to address 1997, 2006, and 2012 PM2.5 standards, as well as a plan to demonstrate maintenance of the 1987 PM10 standard as required under the federal Clean Air Act.

Carbon monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air, unlike ozone. The main source of CO in the San Joaquin Valley is on-road motor vehicles (SJVAPCD 2015b). The San Joaquin

Valley Air Basin is in attainment/unclassified status for CO; as such, the SJVAPCD has no CO attainment plans. High CO concentrations in areas of limited geographic size, referred to as "hot spots," may occur in areas ordinarily associated with highly congested traffic.

In addition to the criteria pollutants, the California Air Resources Board has also identified other air pollutants as toxic air contaminants (TACs) - pollutants that may cause acute, serious, and/or long-term health effects, such as cancer, even at low levels. Diesel particulate matter is the most commonly identified TAC, generated mainly as a product of combustion in diesel engines. Other TACs are less common and are typically associated with industrial activities.

Air Quality Rules and Regulations

As previously noted, the SJVAPCD has jurisdiction over most air quality matters in the Air Basin. The SJVAPCD has developed plans to attain State and federal standards for ozone and particulate matter, which include emissions inventories to measure the sources of air pollutants and the use of computer modeling to estimate future levels of pollution and make sure that the Valley will meet air quality goals (SJVAPCD 2015b). A State Implementation Plan for carbon monoxide has been adopted by the California Air Resources Board (ARB) for the entire state.

The SJVAPCD implements the federal and California Clean Air Acts and the applicable attainment and maintenance plans through local rules and regulations. SJVAPCD rules and regulations that would be applicable to development projects such as the proposed project are summarized below.

Regulation VIII (Fugitive Dust PM_{10} Prohibitions)
Rules 8011-8081, which comprise Regulation VIII are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 4101 (Visible Emissions)
This rule prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants

Rule 9510 (Indirect Source Review)
Rule 9510, also known as the Indirect Source Rule (ISR), is intended to reduce or mitigate construction and operational emissions of NO_x and PM_{10} generated by new development. This rule requires specific percentage reductions in estimated on-site construction and operation emissions, and/or payment of off-site mitigation fees for required reductions that cannot be met on the project site. Construction emissions of NO_x and PM_{10} exhaust must be reduced by 20% and 45%, respectively. Operational emissions of NO_x and PM_{10} must be reduced by 33.3% and 50%, respectively. The rule applies to development projects of 50 residential units and larger. Based on these criteria, the proposed project would not be subject to Rule 9510.

Environmental Impacts and Mitigation Measures

The potential construction and operational air quality impacts of the project were addressed for the proposed 42-unit 55+ community using the 2015 SJVAPCD adopted Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). GAMAQI defines an analysis methodology, thresholds of significance, and mitigation measures for the assessment of air quality impacts for

projects within SJVAPCD's jurisdiction. Among other things, the GAMAQI defines CEQA thresholds of significance for pollutant emissions from larger projects that apply to emissions from both construction and operations. GAMAQI defines "small projects," including residential development projects involving less than 390 units; the SJVAPCD has pre-calculated construction and operations from such projects and determined that small project emissions would fall under significance thresholds and would therefore not involve significant air quality effects. As a result, project-specific emissions for the project were not calculated

a, b) Air Quality Plans and Standards.

The proposed project is considered a "small project" as classified by the GAMAQI; therefore, it can be assumed that neither project construction nor operational emissions would exceed the significance thresholds for any of the criteria pollutants. No mitigation measures are required to reduce or minimize emissions are required for the project to meet the significance thresholds.

Even though project emissions would be below significance thresholds, the project is required to comply with SJVAPCD Regulation VIII, which would reduce generation of particulate matter emissions, specifically dust, during project construction. Compliance with Regulation VIII would further reduce the amount of project emissions, which are already considered less than significant. The project is below the 50-unit compliance threshold for the SJVAPCD's Indirect Source Rule; therefore, compliance with the ISR is not required and the project would be subject to no further emissions reduction requirements.

The SJVAPCD has attainment plans for ozone and particulate matter. Since project emissions would not exceed the significance thresholds for these pollutants, the project would not interfere with the objectives of these attainment plans. Project impacts related to air quality plans would be less than significant.

c) Cumulative Emissions.

As discussed, project operations would would not exceed SJVAPCD significance thresholds. Because of this, the project is not expected to make a cumulatively considerable contribution of criteria pollutant emissions. Cumulative project air quality impacts would be less than significant.

d) Exposure of Sensitive Receptors.

The land uses most sensitive to pollutant emissions generated by the project are the residences west of the project site. Project construction may generate dust emissions that, if uncontrolled, could reach these residences. The small size of the project and required implementation of SJVAPCD Regulation VIII would reduce particulate matter emissions from construction activities to a level that would not be considered significant per the SJVAPCD GAMAQI.

The project proposes access from Lower Sacramento Road two gated entry ways on Point Villa Drive. The main pollutant of concern associated with road intersections is carbon monoxide, which is typically associated with large volumes of traffic. The GAMAQI indicates that a project would create no violations of the CO standards if neither of the following criteria are met:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or

- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity (See Section 3.16, Transportation/Traffic, for an explanation of LOS).

It is not expected that the project would generate traffic at a level that would cause degradation of LOS on local streets to E or F. As discussed in Section 3.16, Transportation/Traffic, roads and intersections are expected to operate at better than LOS E with the implementation of mitigation measures in the North Stockton Projects Phase 3 EIR. Moreover, as noted above, retirement communities generate traffic at a substantially lower rate than other residential projects, as residents of these communities typically drive less. The project is expected to have no adverse impact on CO emissions in the area.

Project construction would likely generate emissions of diesel particulate matter, which is considered a TAC. Construction emissions of diesel particulate matter are, however, temporary and would cease once project construction is completed. Health impacts related to TACs such as diesel particulate matter are associated with long-term exposure. As a result, diesel particulate emissions generated by construction activities are considered less than significant.

e) Odors.

The land uses most sensitive to potential odors are the residences adjacent to and west of the project site. The project is a residential project; as such, it would not generate any odors that would affect these and other residences in the vicinity. The project would have no impact related to odors.

3.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?				✓
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?				✓
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or				✓

with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?		✓		

NARRATIVE DISCUSSION

Environmental Setting

Information for this section is taken primarily from a Biological Resources Evaluation that was included in the Supplemental EIR for NSPA Phase 3 thereafter referred as the previous SEIR (SCH #1992052124, March 7, 2005). The 2005 biological investigation included consideration of the proposed project site. The results of the 2005 investigation were field-checked by BaseCamp Principal Charlie Simpson in May 2019 and found to be consistent with the conditions described by Moore Biological; a copy of the 2019 field report is shown in Appendix B.

Biological Habitats

The project site is vacant and is located in an area dominated by urban residential development to the west and agricultural land to the east. Historically, the site has been used for agricultural purposes. The site is an open field of grasses and weeds that is tilled periodically for weed control. A masonry wall borders the project site along the west, while Lower Sacramento Road bounds it to the east.

The previous EIR indicates thirteen trees were located on or near the project site; however, a site visit conducted by BaseCamp Environmental in April 2018 discovered only four remnant ornamental trees were still potentially present on the project site. These trees are located along the north line of Lot 43, and area that is not proposed for development at this time; none of the remaining trees are heritage oak trees.

There are no streams or other surface waters on or adjacent to the project site. A determination of the presence or absence of Waters of the U.S., including wetlands, on the site was conducted by Moore Biological Consultants (2005). This involved an examination of botanical resources, soils, and hydrological features and was based on applicable U.S. Army Corps of Engineers standards. It was determined that no federal jurisdictional wetlands or other Waters of the U.S. were located on the site or within a 500-foot buffer area around the project site. The 2019 field inspection found no evidence to the contrary.

Plant and Wildlife Species

Site vegetation is dominated by a mixture of non-native annual grasses and weedy species such as black mustard, thistle, and wild radish, species that tend to colonize quickly after land disturbance.

Wildlife common to ruderal habitats are likely to occur on the project site; such wildlife species, which are often closely associated with urban development, include the house sparrow, European starling, rock dove, western scrub-jay, black-tailed jackrabbit, raccoon, opossum, striped skunk, and house mouse.

Special-Status Species

Special-status species are plants and animals that are legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), or other regulations. Special-status species also include species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration. Special-status plants include species that are designated rare, threatened, or endangered and candidate species for listing by the U.S. Fish and Wildlife Service (USFWS). They also include plant species considered rare or endangered as defined in CEQA Guidelines Section 15380, such as species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society (CNPS), and species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on List 3 in the CNPS Inventory.

Typical special-status wildlife species of concern in the Stockton area include the Swainson's hawk ("Threatened" under CESA), burrowing owl, and tri-colored blackbird (both State Species of Special Concern). Other species of concern include giant garter snake ("Threatened" under ESA and CESA), California tiger salamander ("Threatened" under ESA and CESA), Pacific pond turtle (State Species of Special Concern), and Valley elderberry longhorn beetle ("Threatened" under ESA). In addition, migratory bird species protected under the Migratory Bird Treaty Act may be found seasonally in the Stockton area. Three protected bird species (burrowing owl, Swainson's hawk, and white-tailed kite) have potential foraging habitat on the project site. That is, the three species may intermittently forage for prey on any portion of the project site. The site does not include any suitable nesting trees or known nesting habitat for any of the species; no evidence of ground squirrrel or burrowing owl use was noted during the 2019 inspection (BaseCamp 2019).

Biological Resource Plans and Ordinances

The proposed project site is located within the City's Urban Service Boundary and is within the HAB 3 (Multi-Purpose) zone as defined by the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The SJMSCP is a comprehensive program for assessing and mitigating the biological impacts of land development. A project that complies with the Plan can be considered to result in less than significant impacts on biological resources under CEQA. Participation in the SJMSCP is optional; that is, projects may use the SJMSCP to reach compliance with the various statutes and regulations that apply to biological resource protection or it may comply with those requirements independently, without the benefit of the Plan. Projects approved within the City of Stockton are required to participate in the plan.

The SJMSCP is locally implemented by the San Joaquin County Council of Governments (COG). The compliance process outlined in the Plan has been adopted by federal and state agencies with

jurisdiction or trusteeship over biological resources. In addition, the SJMSCP has been adopted by San Joaquin County, the COG, the City of Stockton and other incorporated cities and entities in San Joaquin County. Potential impacts of development on each of the potentially-occurring special-status species are covered by the SJMSCP.

Environmental Impacts and Mitigation Measures

a) Effects on Special-Status Species.

The project site contains potential foraging habitat for Swainson's hawk, a State threatened species. The project would convert this potential habitat to urban development, thereby reducing available foraging habitat. The amount of converted foraging habitat is small as the project involves an infill project; nevertheless, this is considered a potentially significant impact.

Although no burrowing owls or ground squirrel burrows were observed on the site, the site has the potential to support burrowing owl nesting and/or foraging in the future. This is considered a potentially significant impact.

The project site is within the coverage area of the SJMSCP. As described above, the SJMSCP includes a fee program and specifies Incidental Take Minimization Measures (ITMMs) that are assumed to reduce the impacts of development on listed species such as Swainson's hawk, burrowing owl and other species to a less than significant level. The project is located in SJMSCP Category C Ag Habitat Open Spaces, Pay Zone B. Mitigation measures described below would require participation in the SJMSCP, which would reduce impacts on these and other special-status species to a level that would be less than significant.

Mitigation Measures:

BIO-1: The owners, developers, or successors in Interest (ODS) shall mitigate for the proportionate loss of potential wildlife habitat from proposed residential development by applying for coverage, paying required fees and implementing Incidental Take Minimization Measures (ITMMs) as required by the adopted San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).

b) Riparian and Other Sensitive Habitats.

The biological resource study did not identify any sensitive natural communities on the project site. No specialized habitats for special-status species, such as elderberry shrubs, were identified on the project site. The project site would have no impact on riparian or other sensitive habitats.

c) Wetlands and Waters of the U.S.

The wetland determination conducted as part of the biological evaluation (Moore Biological Consultants 2005) did not identify any wetlands or other Waters of the United States either on or adjacent to the project site. The 2019 site inspection (BaseCamp 2019) did not find any evidence of wetlands or Waters of the U.S. on or adjacent to the site. The project would have no impact on wetlands or Waters.

d) Fish and Wildlife Movement.

There are no streams either on or adjacent to the project site, so no fish movement utilizing such streams would be disturbed. The portion of the site proposed for residential development does not include trees or represent a migration corridor or portion of a corridor for wildlife; the project would have no impact on wildlife migration.

e) Local Biological Requirements.

There are no City policies or ordinances applicable to this project. A Stockton ordinance establishes permit and mitigation requirements for projects where native oak trees must be removed. There are no native oak trees on the site. The project would have no impact on local biological requirements.

f) Conflict with Habitat Conservation Plans.

The project site is classified as Agricultural Habitat Open Space under the SJMSCP. The City of Stockton requires that project participate in the SJMSCP program. The project site was found to not contain any special-status species in field surveys, but habitat was identified on and in the vicinity of the site for two species covered by the SJMSCP. Mitigation Measure BIO-1 would require the project to comply with the SJMSCP, to pay any required SJMSCP fees and to implement applicable ITMMs if these species or their nests are found on the site. No other habitat conservation plans apply to the project site.

Mitigation Measures:

Implement Mitigation Measure BIO-1.

3 5 CULTURAL RESOURCES

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 as defined in Section 15064.5?		✓		
b) Cause a substantial adverse change in the significance of a unique archaeological resource (i.e., an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions, has a special and particular quality such as being the oldest or best available example of its type, or is directly associated with a scientifically recognized important prehistoric or historic event or person)?		✓		

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		
d) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

NARRATIVE DISCUSSION

Environmental Setting

Background information for this section comes primarily from the archaeological study reported in the previous SEIR (SCN #1992052124, 2005). The investigation to determine the presence or absence of archaeological or historical cultural resources was performed for most of the NSPA area by Archaeological Services, Inc. (ASI), in which both records searches and field surveys were performed. Field surveys included the proposed project site.

Prehistoric Background

The project site lies within territory claimed by the Northern Valley Yokuts. The Yokuts occupied an extensive area, from the Coast Ranges to the Sierra Nevada foothills, and from the American River to the upper San Joaquin River. Yokut villages typically consisted of a scattering of small structures and were often located on elevated features adjoining streams. Villages were predominantly inhabited by the Yokuts during the winter months; however, warmer months were spent living in temporary camps established at higher elevation. Economic life revolved around hunting, fishing, and plant collection, with deer, acorns, and avian and aquatic resources representing primary staples. The Yokuts used local resources to manufacture an array of primary and secondary tools and implements, including a wide variety of wooden, bone, and stone artifacts to collect and process food. Only fragmentary evidence of their material culture remains, due to perishability and to impacts on archaeological sites resulting from later land uses.

Recently, the California Legislature enacted AB 52, which focuses on consultation with Native American tribes on land use issues potentially affecting the tribes. The intent of this consultation is to avoid or mitigate potential impacts on "tribal cultural resources," which are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe." For this project, the United Auburn Indian Community and the City of Stockton conducted consultation proceedings, which concluded on May 28, 2019 Further discussion about the consultation and tribal cultural resources is provided in Section 3.17 Tribal Cultural Resources of this document.

Historic Background

Historically, early Spanish expeditions arrived from Bay Area missions as early as 1804, penetrating the northwestern San Joaquin Valley. By the late 1830s and early 1840s, several small permanent European-American settlements had emerged in the Central Valley and adjacent foothill lands, including ranchos in the interior Coast Range.

With the discovery of gold in the Sierra Nevada, large numbers of European-Americans, Hispanics and Chinese arrived in and traveled through the general project area. Demand for commodities led quickly to the expansion of ranching and agriculture, and permanent communities developed, particularly along major transportation corridors.

Intensive agricultural and urban development followed the advent of the railroad in the mid-1800s. By the end of the 19th century, a substantial portion of the Central Valley, including the project site, was being intensively cultivated, and there was considerable 20th century expansion due to increasing mechanization and the arrival of water for irrigation from the Central Valley Project (CVP) and other sources.

A Phase II Environmental Impact Assessment (ESA) was conducted for the project site by Wallace – Kuhl and Associates, including shallow soil sampling from twelve soil borings collected from various points around the property. A review of aerial photographs as far back as 1950 indicates that a structure existed on the northeast corner of the project site. However, this structure is no longer present.

Paleontological Resources

The vast majority of paleontological specimens from San Joaquin County have been found in rock formations in the foothills of the Diablo Mountain Range, but remains of extinct animals, such as mammoth, can be found virtually anywhere in the County, especially along watercourses such as the San Joaquin River and its tributaries (San Joaquin County 2009). Geological materials underlying the project site include the recent (Quaternary) sedimentary deposits of the Modesto Formation (Wagner et al. 1981). Numerous vertebrate fossil sites have been associated with the Modesto Formation in the Central Valley, including land mammals, birds, reptiles, and amphibians (California High Speed Rail Authority 2012).

Environmental Impacts and Mitigation Measures

The previous SEIR addressed potential impacts of the NSPA area which included the project site, and defined mitigation measures cultural resources that would reduce any impacts on cultural resources to less than significant. Updated versions mitigation measures are provided below.

Development of the proposed multi- and single-family residential development would not result in significant impacts on any known cultural resources. No prehistoric or historic resources were identified within the project site in the previous EIR. There are no historic or potentially historic resources located on the project site. The project would not result in any significant historic resources effects.

a, b) Historical and Archaeological Resources.

The archaeological survey noted that no evidence of historic-era resources was observed on the project site; likewise, no evidence of prehistoric occupation or utilization was observed. The project site has been intensively disturbed by past agricultural activities and construction of Lower Sacramento Road, and it is considered unlikely that any intact historical or archaeological resources would be found. Nevertheless, currently unknown subsurface resources could be uncovered during construction activities. Mitigation described below sets forth procedures to be implemented to protect cultural resources should any be uncovered during project construction. Implementation of

this mitigation measure would reduce potential impacts on these resources to a level that would be less than significant.

Mitigation Measures:

CULT-1: If any subsurface cultural or paleontological resources are encountered during project construction, all construction activities in the vicinity of the encounter shall be halted until a qualified archaeologist or paleontologist, as appropriate, can examine these materials and make a determination of their significance. If the resource is determined to be significant, recommendations shall be made on further mitigation measures needed to reduce potential effects on the resource to a level that would be less than significant. Such measures could include 1) preservation in place or 2) excavation, recovery and curation by qualified professionals. The CDD shall be notified of any find, and the ODS shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the CDD, consistent with the requirements of the CEQA Guidelines.

c) Paleontological Resources.

The project site is flat and contains no geological features that may be considered unique. The project site is underlain by the Modesto Formation, which has been a source of paleontological finds. Given past disturbance of the project site, it is unlikely that any paleontological resources would be found, but it is conceivable that currently unknown resources may be uncovered during construction activities. Mitigation Measure CULT-1 sets forth procedures to be implemented to protect paleontological resources should any be uncovered during project construction. Implementation of this mitigation measure would reduce potential impacts on these resources to a level that would be less than significant.

Mitigation Measures:

Implement Mitigation Measure CULT-1

d) Human Burials.

Sensitive cultural resources have been identified in the general vicinity of the site. Although cultural resource investigations to date have not revealed any indication of human burials on the site, human remains potentially could be encountered during construction or other ground disturbing activities. As a result, the project has the potential to result in a significant cultural resources effect. Potential effects on Native American human remains would also involve the potential for significant impacts on tribal cultural resources.

The California Public Resources Code, as applied in CEQA Guidelines Section 15064.5I, describes the procedure to be followed when human remains are uncovered in a location outside a dedicated cemetery. All work in the vicinity of the find shall be halted and the County Coroner shall be notified to determine if an investigation of the death is required. If the County Coroner determines that the remains are Native American in origin, then the County Coroner must contact the NAHC within 24 hours. The NAHC shall identify the most likely descendants of the deceased Native American, and the most likely descendants may make recommendations on the disposition of the remains and any associated grave goods with appropriate dignity. If a most likely descendant

cannot be identified, the descendant fails to make a recommendation, or the landowner rejects the recommendations of the most likely descendant, then the landowner shall rebury the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance.

Compliance with the provisions of CEQA Guidelines Section 15064.5(e) in the event of inadvertent discoveries is required by Mitigation Measure CULT-2 described below. These mitigation measures would reduce this potential effect to a less than significant level.

Mitigation Measures:

CULT-2. Project construction shall comply with the provisions of CEQA Guidelines Section 15064.5(e) regarding the treatment of any human burials encountered, including halting all work in the vicinity of the find and notifying the County Coroner.

3.6 ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓	

NARRATIVE DISCUSSION

Environmental Setting

According to the latest information from the U.S. Energy Information Administration (EIA), California consumed 7,830 trillion British thermal units (BTUs) of energy in 2016. Only Texas consumed more energy. However, consumption per capita in California was 197 million BTUs, which was 49th among all states and the District of Columbia. Transportation accounted for approximately 39.8% of the energy consumed in California, followed by industrial with 23.7%, commercial with 18.9%, and residential with 17.7% (EIA 2017).

Electricity is a major energy source for residences and businesses in California. In 2016, electricity consumption in California totaled approximately 285,701 gigawatt-hours (GWh) (CEC 2018). Natural gas is another major energy source. In 2016, natural gas consumption in California totaled approximately 12,750 million therms (CEC 2018). Motor vehicle use also accounts for substantial energy usage. The SJCOG estimated countywide vehicle miles traveled (VMT) daily was

17,868,785 miles in 2015, which led to the consumption of approximately 511 million gallons of gasoline and diesel fuel in 2015 (SJCOG 2018).

Electrical usage within most of the County, including Stockton, is served from a transmission network owned by PG&E. Principal elements of the PG&E network are several transmission lines ranging in voltage from 115 kilovolts (kV) to 500 kV, the highest voltage lines that are in the southwestern corner of San Joaquin County. Centralized natural gas service is available in Stockton from PG&E, the only provider of such service. Interregional gas mains are located along the SR 99 corridor, and branch lines extend to and through the cities, with service pipelines located primarily within city streets.

California has implemented numerous energy efficiency and conservation programs that have resulted in substantial energy savings. The State has adopted comprehensive energy efficiency standards as part of its Building Standards Code, California Codes of Regulations, Title 24. Part 6 of Title 24, also known as the California Energy Code, contains energy conservation standards applicable to all residential and non-residential buildings throughout California, including schools and community colleges. The City of Stockton has adopted the 2013 version of the California Energy Code as part of its building codes. California also has adopted a Renewables Portfolio Standard, which requires electricity retailers in the state to generate 33% of electricity they sell from renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) by the end of 2020. In 2018, SB 100 was signed into law, which increases the electricity generation requirement from renewable sources to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

Environmental Impacts and Mitigation Measures

a, b) Project Energy Consumption and Consistency with Energy Plans.

The main sources of energy consumption associated with the project would be construction activities and residential energy uses. Project construction would involve fuel consumption and use of other non-renewable resources. Construction equipment used for such improvements typically runs on diesel fuel or gasoline. The same fuels typically are used for vehicles that transport equipment and workers to and from a construction site. However, construction-related fuel consumption would be finite, short-term and consistent with construction activities of a similar character. This energy use would not be considered wasteful, inefficient or unnecessary.

The project proposes to develop 42 single-family residential units. According to EIA information on average fuel consumption by residences in 2015, single-family residences in the western United States consumed on average 74.8 million BTUs of energy annually (EIA 2018). Based on these factors, proposed development on the project site would consume approximately 3.14 billion BTUs of energy annually.

The project would be required to comply with the building energy efficiency standards of the adopted California Energy Code, adopted by the City at the time of project approval. Compliance with these standards would reduce energy consumption associated with residential uses, although reductions from compliance cannot be readily quantified. Moreover, under California's Renewables Portfolio Standard, a greater share of electricity would be provided from renewable energy sources over time, so less fossil fuel consumption to generate electricity would occur. Also, as the proposed housing would be developed for senior citizens, the anticipated vehicle trips would be less than for typical residential subdivisions, so per-unit gasoline consumption would be less.

Overall, project construction and operations would not consume energy resources in a manner considered wasteful, inefficient, or unnecessary. Project impacts related to energy consumption are considered less than significant. All project components would be consistent with the energy efficiency goals of Title 24. Project impacts would be less than significant.

3.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?		✓		
e) 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?				✓

NARRATIVE DISCUSSION

Environmental Setting

Project Site Soils

The project site is located at an elevation of approximately 25 feet above mean sea level in the San Joaquin Valley in central California near the Sacramento-San Joaquin River Delta. The San Joaquin Valley is in the southern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west. The San Joaquin Valley, the southern portion of the Great Valley, is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the Valley and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of metasedimentary, volcanic, and granitic rocks.

The sediments that form the Valley floor were derived largely from erosion of the Sierra Nevada. The smaller and steeper slopes on the west side of the Valley overlie sedimentary rocks more closely related to the Coast Ranges. Most of the soils in the San Joaquin Valley consist of sand, silt, loamy clay alluvium, peat, and other organic sediments. These soils are the result of long-term natural soil deposition and the decomposition of marshland vegetation. The Geologic Map of the Sacramento Quadrangle (Wagner et al. 1981) designates the underlying geology of the project site as the Modesto Formation, consisting of Quaternary sediments.

According to the geotechnical study prepared for the project site (Terracon 2018) the soil type underlying the project site is Jackstone clay and Rioblanco clay loam. These are a moderate to severely hardpan, somewhat poorly-drained soil formed in alluvium from mixed rock sources. Its slope is 0 to 2 percent. Jacktone and Rioblancho soil associations are subject to shrink-swell, slow permeability and low strength limitations for development. Construction of homes and buildings will require properly designed foundations and footings, and runoff will need to be diverted away from buildings to minimize shrink-swell effects.

Potential erosion associated with construction and development and resulting potential impacts on water quality are addressed by State of California storm water permit requirements and corresponding local implementation plans, ordinances and standards, including those adopted by the City of Stockton. Erosion and related storm water pollution prevention controls are addressed in detail in Section 3.9 Hydrology and Water Quality.

A depression, approximately 82 feet in width with a maximum depth of 5 feet is located along the western boundary of the project site on Lots 1 and 2. To construct homes in this area, these two lots will require proper engineered fill, grading, and compaction to the standards outlined in the California Building Code. This need is acknowledged in the proposed Tentative map.

Seismic and Geologic Hazards

There are no mapped fault systems at or near the site. The California Geological Survey does not include the project site in an Alquist-Priolo Earthquake Fault Zone (California Geological Survey

2015). The project site, along with the rest of San Joaquin County, is subject to seismic shaking from fault features east and west of the County, including the Hayward/Rodgers Creek, San Andreas, and Calaveras Faults (San Joaquin County 2009). In the Stockton area, ground shaking equivalent to an intensity of VIII or IX on the Modified Mercalli Scale may occur. Intensity VIII earthquakes can cause structure damage that ranges from "slight" in specially-designed structures to "great" in poorly-built structures (CDMG 1973).

Soil compaction and settlement can result from seismic ground shaking. If the sediments that compact during an earthquake are saturated, soils may lose strength and become fluid – a process called liquefaction. Based on known information, areas of the County with groundwater less than 50 feet from ground surface in unconsolidated sediment are susceptible to liquefaction, including lands near river courses (Mintier 2016). According to the project geotechnical study, however, the approximate depth to groundwater is more than 50 feet below ground surface and the stiff to hard surface soil conditions of the project site make the potential for liquefaction at this site very low (Terracon 2018). The project area is not located with an area mapped by the State Geologist as a "Zone of Required Investigation;" these zones are established where required to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake-triggered ground failures

Environmental Impacts and Mitigation Measures

a-i) Fault Rupture Hazards.

There are no active or potentially active faults within or near the project site. The closest known active fault is the Clayton Fault, approximately 30 miles to the west. As noted above, the project site is not within an Alquist-Priolo Earthquake Fault Zone. The project would have less than a significant impact related to fault rupture.

a-ii, iii) Seismic Hazards.

The project site, along with the rest of the County, is subject to seismic shaking from fault features east and west of the County. Individual improvements on either the development site or the future Lot 43 development site will be required to incorporate engineering design features that would comply with the California Building Code; Building Code design criteria would enable structures to withstand projected seismic shaking.

Areas in which the water table is less than 20 feet below the ground surface and with predominantly clean, relatively uniform sands of loose to medium density are susceptible to liquefaction. The soil on the project site is Jackstone clay and Rioblanco clay loam, which is not sandy. Also, the depth to the groundwater table at the project site is substantially greater than 20 feet, estimated at more than 50 feet. According to the geotechnical study, liquefaction on the project site is considered unlikely (Terracon 2018).

The geotechnical report also concluded that compliance with the adopted Uniform Building Code, required by the City as part of its standard plan check and building permit issuance, would minimize seismic hazards to a level that would be less than significant. The project would have a less than significant impact on seismic hazards.

a-iv) Landslides.

The project site and its surroundings are flat and not prone to landslide hazards. The project would have no impact in this issue area.

b) Soil Erosion.

The Jacktone and Rioblancho soil associations on the project site have a low potential for erosion. Project construction activities would however, loosen the soil, leaving it exposed to potential water and wind erosion. The eroded soils, in turn, could be transported off the project site by runoff to waters of the state. Compliance with SJVAPCD Regulation VIII, which is discussed in Section 3.3, Air Quality, would reduce potential wind erosion impacts.

The project site along with other projects that involve more than one acre of disturbance are required to comply with State and local storm water quality controls. State controls are established as a part of the municipal separate storm sewer (MS4) permit system. The City of Stockton has adopted and implements its MS4 program in accordance with Central Valley Regional Water Quality Control Board Order No. R5-2016-0040-2. The Stockton program incorporates the State Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) to address potential water quality issues associated with construction as well as the incorporation of post-construction Best Management Practices that provide long-term water quality protection. Normal implementation of the City's Storm Water Plan requires preparation of the SWPPP in compliance with the Construction General Permit. Implementation of these existing air and water erosion control measures would reduce potential construction erosion effects to a less than significant level.

c) Geologic Instability.

The soils underlying proposed building sites have not been identified as inherently unstable or prone to failure. The soil depression on proposed Lots 1 and 2 would require engineered fill and grading to level to conform with the adjacent land and provide suitable building sites. Standard City practices would require the submittal of geotechnical report, as required by Mitigation Measure GEO-1, and recommended engineering design for this and other potential soil instability hazards, which would avoid potential adverse effects. The project would have a less than significant effect related to the stability of soils.

d) Expansive Soils.

As noted above, the Jacktone and Rioblancho clay types have a high shrink-swell potential. Expansive soils can lead to damage of buildings and supporting infrastructure if not addressed. A geotechnical report prepared for the project site identified potential geotechnical issues related to project development, including the presence of expansive soils and recommended design and construction features to reduce the potential impact of these issues on project facilities. The mitigation measure below reduce expansive soils, impacts to a level that would be less than significant.

Mitigation Measures:

GEO-1: Prior to approval of public road and utility improvements, a geotechnical study shall be submitted to the City Engineer addressing potential adverse effects related to expansive soils. The Building Department shall review and approve

grading plans, improvement plans and building design for private lands. The City Engineer and/or Building Department shall verify the implementation of geotechnical requirements in the field.

e) Adequacy of Soils for Sewage Disposal.

The project site would be required to connect to the City of Stockton sewer system. The project would have no impact related to soil adequacy for sewage disposal.

3.8 GREENHOUSE GAS EMISSIONS

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

NARRATIVE DISCUSSION

Environmental Setting

GHG Background

Greenhouse gases (GHGs) are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. GHGs are both naturally occurring and are emitted by human activity. GHGs include carbon dioxide (CO_2), the most abundant GHG, as well as methane, nitrous oxide and other gases. Major GHG sources in California include transportation, industrial, electric power, commercial and residential, and agriculture (ARB 2016). Increased atmospheric concentrations of GHGs are considered a primary contributor to global climate change, which is a subject of concern for the State of California. Potential impacts of global climate change in California include reduced Sierra Nevada snowpack, increased wildfire hazards, greater number of hot days with associated decreases in air quality, and potential decreases in agricultural production (Climate Action Team 2010).

Unlike the criteria air pollutants described in Section 3.3 Air Quality, GHGs have no "attainment" standards established by the federal or State government. In fact, GHGs are generally not thought of as traditional air pollutants because their impacts are global in nature, while air pollutants mainly affect the general region of their release to the atmosphere (SJVAPCD 2015b). Nevertheless, the U.S. Environmental Protection Agency (EPA) has found that GHG emissions endanger both the public health and public welfare under Section 202(a) of the Clean Air Act, due to their impacts associated with climate change (EPA 2009).

GHG Emission Reduction Plans

The State of California has implemented GHG emission reduction strategies through AB 32, the Global Warming Solutions Act of 2006, which requires total statewide GHG emissions to reach 1990 levels by 2020, or an approximately 29% reduction from 2004 levels. In compliance with AB 32, the State adopted the Climate Change Scoping Plan in 2008 and updated the plan in 2014. Primary strategies addressed in the original Scoping Plan included new industrial and emission control technologies; alternative energy generation technologies; advanced energy conservation in lighting, heating, cooling and ventilation; fuels with reduced carbon content; hybrid and electric vehicles; and methods for improving vehicle mileage (ARB 2008). The 2014 update highlights California's progress toward meeting the 2020 GHG emission reduction goal of the original Scoping Plan, and it establishes a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050 (ARB 2014). It should be noted that the 2050 reduction target was set by executive order and has not been made State law.

In 2016, Senate Bill (SB) 32 was enacted. SB 32 extends the GHG reduction objectives of AB 32 by mandating statewide reductions in GHG emissions to levels that are 40% below 1990 levels by the year 2030. The State has recently released for public review a draft Scoping Plan that sets forth strategies for achieving the SB 32 target. The draft Scoping Plan, released in 2017, proposes to continue many of the programs that were part of the previous Scoping Plans, including the cap-and-trade program, low-carbon fuel standards, renewable energy, and methane reduction strategies. It also addresses for the first time GHG emissions from the natural and working lands of California, including the agriculture and forestry sectors (ARB 2017). Recently, the State Legislature extended the cap-and-trade program from its original expiration date in 2020 to 2030.

The SJVAPCD adopted a Climate Change Action Plan in 2008 and issued guidance for development project compliance with the plan in 2009. The guidance adopted an approach that relies on the use of Best Performance Standards to reduce GHG emissions. Projects implementing Best Performance Standards would be determined to have a less than cumulatively significant impact. For projects not implementing Best Performance Standards, demonstration of a 29% reduction in project-specific (i.e., operational) GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact (SJVAPCD 2009).

The City of Stockton adopted a Climate Action Plan (CAP) in 2014, in compliance with a legal settlement related to its General Plan 2035 and associated EIR. The CAP "outlines a framework to feasibly reduce community GHG emissions in a manner that is supportive of AB 32 and is consistent with the Settlement Agreement and 2035 General Plan policy" (City of Stockton 2014). The CAP set a GHG emission reduction target of 10% below 2005 GHG emission levels by 2020. To achieve this target, the CAP incorporates a Development Review Process through which development projects document the incorporation of measures that would produce a 29% reduction from 2020 business-as-usual GHG emissions. The majority of the GHG reductions in Stockton would occur through State regulatory programs and local programs that are producing or will produce GHG emission reductions that would help to reduce total emissions associated with a project by approximately 25% from business-as-usual levels. Development must identify the BMPs that would provide the additional 4% reduction in GHG emissions (City of Stockton 2014).

a) Project GHG Emissions and Consistency with GHG Reduction Plans.

The CalEEMod model was used to estimate the total GHG construction and operational emissions associated with the project (Appendix A). Table 3-3 presents the results of the CalEEMod run. "Mitigated emissions" are the result of project compliance with applicable laws and installation of certain project features listed below.

- SB X7-7 in 2009 sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020. The California Green Building Code mandates a 20% reduction in indoor water use.
- AB 341 establishes the goal of diverting 75% of California's waste stream from landfills by 2020.
- Installation of sidewalks on the project site.
- Increased density of overall development.

TABLE 3-2
ESTIMATED PROJECT GHG EMISSIONS

GHG Emission Type	Unmitigated Emissions	Mitigated Emissions
Construction[1]	264.28	264.28
Operational[2]	231.19	219.68

[1] Total GHG emissions from construction in approximate two-year period in tons carbon dioxide equivalent (CO2e).
[2] Annual emissions in tons CO2e.
Source: California Emissions Estimator Model v. 2016.3.2.

As shown in Table 3-3, mitigated operational emissions from the project would be approximately 5.0% less than under business-as-usual (unmitigated) conditions, which meets the 4% GHG reduction requirement of the CAP. In addition, the project would be required to comply with the provisions of Chapter 15.72 of the Stockton Municipal Code, which requires all new construction to comply with the applicable requirements of the 2013 California Building Energy Efficiency Standards, Title 24, Part 6 of the California Building Code. Compliance with these standards would further reduce the amount of GHG emissions generated by the project from business-as-usual conditions, although the associated reduction is not quantified.

Overall, GHG emissions associated with the project would be consistent with the goals of the Stockton CAP. Project impacts related to GHG emissions are considered less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

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?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
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?				✓
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 for people residing or working in the project area?			✓	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			✓	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			✓	

NARRATIVE DISCUSSION

Environmental Setting

This section focuses on hazards associated with hazardous materials, proximity to airports, wildfires, and other potential sources of hazard. Geologic and soil hazards are addressed in Section 3.6, Geology and Soils, and potential flooding hazards are addressed in Section 3.9, Hydrology and Water Quality. Neil O. Anderson and Associates (2004) was retained to conduct a Phase I Environmental Site Assessment (ESA) for the project site. However, a majority of the information for this section was provided by a Phase II ESA conducted by Wallace – Kuhl and Associates (2004) and current database searches.

The Wallace – Kuhl and Associates study of the project site, included shallow soil sampling from twelve soil borings collected from various points around the property. The samples were analyzed for organochlorine pesticides. Trace concentrations of DDT and DDE were found in six of the twelve soil samples submitted, but the detected levels were well below the Total Threshold Limit Concentration (TTLC) values. No other detectable concentrations of organochlorine pesticides were found. No further investigation of the pesticide contamination would be required for reside4ntial use of the Elderberry property.

Historical aerial photographs were reviewed to evaluate past land use at the site and in the surrounding area. A series of aerial photographs dated between 1940 and 1999 were reviewed. Based upon this review, the study area has historically consisted of dry crops and fallow field, and rural residential use only along Lower Sacramento Road. The aerial photographs also show land surrounding the study area to be agricultural and rural residential land. Urban development in the vicinity of the site exists to the west of the project site.

Hazardous Materials

Data on hazardous waste and hazardous material use and transportation sites are kept in the GeoTracker database, maintained by the SWRCB, and in the EnviroStor database, maintained by the California Department of Toxic Substances Control (DTSC). GeoTracker and EnviroStor map the locations and provide the names and addresses of hazardous material sites, along with their contamination history and cleanup status.

A search of the EnviroStor database indicated no record of active hazardous material sites at or in the vicinity of the project site. Envirostor contained the record of four closed DTSC-mandated school investigations of soil contamination (Preliminary Endangerment Assessments-PEAs)at: Davis Road/Whistler Way, approximately 0.6 miles southwest of the project site; 60 Marlette Road, approximately 0.5 miles south of the project site; 9950 Windmill Park Drive, approximately 0.75 miles southwest of the project site; and Corner of Eight Mile Road and Marlette Road, approximately 0.27 miles northwest of the project site (DTSC 2018).

A search of the GeoTracker database indicated two closed leaking underground storage tank (LUST) sites within one mile of the project. All of these were cleaned up and the cases were closed prior to 2001 (SWRCB 2018).

A list of solid waste disposal sites identified by SWRCB that exhibit waste constituent levels outside the waste management unit as being above hazardous waste screening criteria did not

contain any locations within the project vicinity (CalEPA 2016a). Likewise, a list by SWRCB containing sites under Cease and Desist Orders and Cleanup and Abatement Orders showed no locations near the project (CalEPA 2016b).

Wildland Fires

Wildland fires are an annual hazard in San Joaquin County. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add to the County's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining wildland fires. High hazard areas for wildland fires are the grass-covered areas in the east and the southwest foothills of the County (San Joaquin County 2009). The project site is not within designated wildland fire risk areas.

Airport Hazards

There are two private airstrips in the vicinity of the project. The closest private airstrip – Lodi Airpark – is approximately 1.9 miles north of the site. The Lodi Airpark runway runs east to west. Kingdon Airpark is located 3.1 miles northwest of the site, and air traffic at that location is oriented northwest / southeast. The project site is outside of the Airport Influence Area for both airstrips (Coffman 2018). There are no public airports in the vicinity of the project. The closest public airport – Stockton Metropolitan Airport - is approximately eleven and a half miles southeast of the project site.

Environmental Impacts and Mitigation Measures

a, b) Hazardous Materials Transportation, Use and Potential Release

Project implementation would not involve the transport, use, or disposal of hazardous materials, nor would it involve the potential for release of hazardous materials or emissions into the environment, either on-site or in the project vicinity. There will be no routine transport, use, or disposal of hazardous materials associated with the residential uses associated with the project. However, the proximity of Lower Sacramento Road to the site involves a minor contamination risk associated with hazardous material transportation.

Other development on the project site would use small amounts of hazardous materials, if any. These materials are not expected to be in quantities large enough to pose a threat to human health and the environmental if released. Project impacts related to hazardous materials handling are considered less than significant.

c) Hazardous Materials Releases Near Schools.

The project site is not located within a quarter-mile of an existing or proposed school. The nearest school is Podesta Ranch Elementary School, approximately 0.5 miles southwest of the project site. The project would have no impact with respect to hazardous material releases near a school.

d) Hazardous Materials Sites.

As noted in Environmental Setting, a search of the GeoTracker and EnviroStor databases identified no active LUST or other hazardous material sites within 0.5 miles of the project site. The project would have no impact related to hazardous material sites.

e, f) Airport and Airstrip Operations.

There are no public use airports within two miles of the project area. The closest private airstrip – Lodi Airpark – is 1.94 miles north; Kingdon Airpark is located about 3.1 miles northwest of the site. The Lodi Airpark runway is situated in an east to west direction, and flight patterns follow a similar east to west alignment. The flight pattern at Kingdon Airport is oriented northwest / southeast but is more distant from the project site. The site is located outside the Airport Influence Area for both airparks. Therefore, the project is not anticipated to result in a safety concern for people residing or working in the project area as air traffic over the project site would be very limited. The project would have a less than significant impact on airports or airstrips.

g) Emergency Response and Evacuations.

Project construction work would mostly occur on the project site, with work on adjacent roads limited to roadway frontage improvements and connection to utility lines. Such work is not expected to require closure or any major restriction on public use of the roads, so project construction is not expected to substantially obstruct emergency vehicles or any evacuation activity that may be required in the area. Project operations would not obstruct any roadways. Project impacts on emergency response or emergency evacuation plans would be less than significant.

h) Wildland Fire Hazards.

The project site is not in a region susceptible to wildfires. The land in the area is in intensive agricultural use or is developed; use has a high wildfire potential. The project would reduce the existing fire hazard on the parcel by replacing the existing grasses and weeds with a paved and developed area. Fire protection services for the project area are the responsibility of the Stockton Fire Department. Project impacts related to wildfires would be less than significant.

3.10 HYDROLOGY AND WATER QUALITY

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?			✓	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			✓	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems?			✓	
f) Otherwise substantially degrade water quality?			✓	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			✓	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			✓	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			✓	
j) Inundation by seiche, tsunami, or mudflow?				✓

NARRATIVE DISCUSSION

Environmental Setting

Surface Waters and Groundwater

There are no streams or other surface waters on or adjacent to the project site. The nearest stream is Pixley Slough, a channelized stream approximately 600 feet north of the project site. In the project vicinity, Pixley Slough flows from east to west along the south side of Eight Mile Road; the slough is contained within existing levees along the south bank and a concrete flood wall along the north bank. Pixley Slough conducts natural flows as well as irrigation supply water.

The project site is within the Eastern San Joaquin County groundwater sub-basin. The groundwater in the project vicinity generally follows the surface topography, gradually sloping from east to west. As noted in Section 3.6, Geology and Soils, groundwater levels at the project site are deep, approximately 55 feet below the ground surface (San Joaquin County Flood Control and Water

Conservation District 2016). Groundwater levels can be influenced by subsurface groundwater flow from areas of higher elevation to the east and by local irrigation practices.

Groundwater in the San Joaquin County area moves from sources of recharge to areas of discharge. The project site is not in an area of substantial groundwater recharge. Most recharge to the aquifer system occurs from the Delta and along active stream channels where extensive sand and gravel deposits exist. Consequently, the highest groundwater elevations typically occur near the Delta, the Stanislaus River, and the San Joaquin River. Other sources of recharge within the project area include subsurface recharge from fractured geologic formations to the east, as well as deep percolation from applied surface water and precipitation (City of Stockton 2006).

Historically, combined annual groundwater pumping for municipal and agricultural uses in the Stockton area has exceeded the safe yield of the basin and has caused a lowering of the ground water level (Leedshill-Herkenhoff, 1985). In more recent years, the groundwater basin underlying the Stockton Metropolitan Area has recovered, is stabilized and is operating within a manageable range.

Groundwater has historically been an important source of domestic water in the Stockton area, but currently supplies only 25% of the City's water. A significant portion of water consumed in Stockton now comes from surface water supplied by the Stockton East Water District (SEWD) during years of normal or greater rainfall. The SEWD surface water supply has been augmented with the completion of the City's Delta Water Supply Project, which provides additional surface water supply to the Stockton system.

Water Quality

Surface water quality in the Central Valley is managed by the Central Valley Regional Water Quality Control Board (RWQCB) by means of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan), revised in June 2015. The beneficial uses of surface waters in the region include municipal and domestic water supply; industrial service and process supply; agricultural irrigation; groundwater recharge; navigation; contact and non-contact recreation; commercial and sport fishing; migration of aquatic organisms; wildlife habitat; and habitat for rare, threatened, and endangered species. The RWQCB has determined that the quality of these waters does not fully support all of the beneficial uses assigned to the water bodies in the project vicinity (RWQCB 2014). Water quality impacts are a result of tidal fluctuations; Sacramento River and San Joaquin River inflows; local agricultural, industrial, and municipal diversions and returns; and inadequate channel capacities.

The State Water Resources Control Board (SWRCB) and the RWQCB have the responsibility under the federal Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) program for the control of storm water quality. The state water quality agencies have established regulatory systems that assign specific responsibilities to local governments, including the City of Stockton. The City has general responsibility for storm water quality control under its current NPDES area-wide municipal separate storm sewer system (MS4) permit, Central Valley RWQCB Order R5-2016-0040-2. Under the current permit, Stockton is required to continue to implement is currently adopted Storm Water Management Program (SWMP) while preparing a new SWMP to reflect 2016 updates to the State's MS4 general permit.

The City of Stockton's adopted SWMP consists of a variety of programs, including controls on illicit discharges, public education, controls on City operations, and water quality monitoring (City of Stockton 2009a). Major provisions of the Stockton SWMP require conformance with the State's

General Construction Permit, which requires preparation of and conformance with a Storm Water Pollution Prevention Plan (SWPPP) for construction projects of one acre of more in size. The SWPPP must include Best Management Practices (BMPs) that will avoid or minimize adverse water quality impacts. BMPs include Temporary Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control. Only BMPs that are applicable to the project are required to be included in the SWPPP. The requirements of the SWMP are enforced primarily through the City's building and development review processes, which require preparation of the SWPPP, filing of he required Notice of Intent with the RWQCB and providing evidence of Notice of Intent filing with the City. These requirements will be reflected in Conditions of Approval for the proposed Tentative Map and Planned Development Permit.

The SWMP also requires that new development projects include post-construction BMPs that provide for long-term project storm water quality, volume reduction and ongoing BMP maintenance. Post-construction BMP options, including such provisions as stormwater detention, stormwater infiltration and water quality improvement features such as grassy swales, are described in the City's Storm Water Quality Control Criteria Plan. These requirements will also be reflected in Conditions of Approval for the proposed Tentative Map and Planned Development Permit. Additional detail on storm water quality control requirements is provided in the following impact analysis section.

Storm water quality control requirements for existing development within the North Stockton Projects Phase 3 area, including the proposed project site, are met by an existing multi-stage storm drainage treatment and detention facility that is integrated into the design of Pitts Park, located west of the site along Villa Point Drive. This facility was designed, approved and constructed in accordance with the adopted Storm Water Master Plan for the North Stockton Phase 3 area, and with the applicable State storm water quality standards in effect at the time. These standards did not include volume control requirements.

The existing facility in Pitts Park provides for storage of a 10-year minimum storm event. As the capacity of the basin is approached, excess water is discharged to Pixley Slough via an existing pump station located just south of Pixley Slough. In 2009, after approval of this facility, State storm water requirements were expanded to require reduction of storm water volume as well as additional water quality improvement. The applicant's engineer (Sanguinetti, pers. comm.) believes that the existing facility will meet current water quality requirements for the project site; however, this will need to be demonstrated in engineering studies required to be submitted and approved by the City.

Groundwater underlying the City and used for the City's water supply is generally of good quality, with iron and manganese sequestering and chlorination being the only treatment required. There is concern regarding the deterioration of groundwater quality due to salt water intrusion from connate brines under the Delta into Stockton's western regions. Small annual increases in salinity have been noted during years with low surface water availability.

Flood Hazards

According to the Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency (FEMA), the project site lies within an area classified as Zone X (FEMA 2009). Zone X denotes areas outside the 100-year floodplain, but within the 500-year floodplain. A small portion of the project site is within the area subject to 200-year flooding. Development within the 200-year floodplain is permitted if predicted flood depths do not exceed three feet.

Based on information provided by San Joaquin County Public Works Department (SJCPWD), the project site would not be subject to a 200-year flood at a depth of three feet or greater, except for the area of Elderberry Lots 1 and 2, which contain an approximately 5-foot depression , in which 200-year flood depths could exceed three feet (SJCPWD 2016); as such, a 200-year Flood Protection Engineer Report is required. The 200-year Flood Protection Report has been prepared by A. R. Sanguinetti and Associates (2019). The report specifies that the depression will be filled in conjunction with the project development, eliminating potential exposure to unacceptable 200-year flood depths.

Environmental Impacts and Mitigation Measures

a, f) Surface Waters and Water Quality.

The project would not directly affect surface waters; there are no surface water resources on the site or in the project vicinity. As noted in Section C (6), Geology and Soils, construction activities could loosen soils, which could be transported off-site by runoff and could eventually enter surface waters.

As previously described, the City of Stockton has adopted and implements a SWMP, which is intended to minimize the potential storm water quality impacts of development. Program elements most applicable to land development include construction storm water quality requirements, which are met by the required development and implementation of an SWPPP, including risk-based monitoring requirements, and by the incorporation of post-construction BMPs described in the City's adopted Storm Water Quality Control Criteria Plan (SWQCCP) for new development projects. These activities are required by the City's current State MS4 permit.

Runoff from the project would be directed to an existing storm drain in Villa Point Drive, which would conduct it to the existing Pitts Park facility. Water quality conformance will be evaluated as a part of the City's standard review of storm water quality proposals as a part of subdivision improvement plans. Volume reduction conformance will need to be documented in an amendment of the existing Storm Water Master Plan for the North Stockton Phase 3 area, which is identified as a required approval for the project, as listed in Section 2.5.

In order to evaluate the effectiveness of existing storm water quality and volume reduction improvements, the Pitts Park facility will need to be tested to quantify its percolation and other volume reduction characteristics and whether improvements to this facility might lead to increased volume reduction, which could be credited to the proposed project. Volume reduction capacity for both the 55+ project, as well as future development of Lot 43, will need to be evaluated to establish conformance with both current water quality and volume reduction standards in engineering studies, subject to City review and approval.

In the event that volume reduction requirements are not fully met at Pitts Park, other improvements to this facility, or within the 55+ and Lot 43 sites, may be required such as raingardens, pervious pavements or other acceptable post-construction BMPs. Mitigation measures requiring incorporation of such improvements into the project and City approval of calculations supporting their effectiveness are provided in the Utilities and Services section. The exact nature of the required measures will be further specified during the design phases of the project.

Project development would have a potentially significant impact on surface water quality. However, compliance with the applicable existing City storm water quality permits, programs and regulations would reduce impacts to a level that would be less than significant.

The ODS will be required to participate in existing City storm drainage maintenance districts. Ordinarily, this occurs through annexation to an existing zone or creation of a new zone within the Stockton Consolidated Storm Drainage Maintenance Assessment District No. 2005-1 prior to the recordation of a Final Map as required in project Conditions of Approval. The conditions will require the ODS to pay the Assessment District costs, including, but not limited to, preparing the City-selected Assessment District Council, Engineer's Report, Proposition 218 vote, and noticing requirements

b) Groundwater Supplies.

The project would not draw directly from groundwater but would be connected to the City's water system. The City's water supply relies in part on groundwater though it is no longer the primary source of water. The proposed project and its potential water demands are accounted for and anticipated in the City's land use and water supply planning.

Development of the project site would replace existing vacant land with urban development, including buildings and pavement. This would tend to reduce the amount of precipitation that would otherwise percolate into the ground, thereby reducing groundwater recharge. The project site is not, however, identified as an area with substantial recharge potential.

The General Plan 2040 EIR recognizes that planned development such as the proposed project would increase impervious areas in the Stockton area and incrementally reduce opportunities for groundwater recharge. Existing storm water quality and volume control plans, however, contain requirements that would reduce loss of recharge capability by minimizing the amount of impervious area and incorporating features that will tend to increase rainfall percolation. Among other things, new development projects are required to include post-construction BMPs that minimize impervious areas and retain, reuse, and/or infiltrate stormwater. In addition, new development is required to employ Low Impact Development (LID) approaches that conserve natural areas and reduce impervious areas. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, and groundwater recharge impacts would therefore be less than significant.

c, d, e) Drainage Patterns and Runoff.

The project would alter existing storm drainage patterns, due to grading and the installation of pavement and storm drainage facilities. In addition, proposed improvements on the project site would result in the generation of additional runoff due to the introduction of impervious surfaces. As discussed above, Hydrology and Water Quality, and Utilities and Services, mitigation measures will reduce the drainage effects of the project to a less than significant level. Off-site drainage will be delivered to the City's drainage system in accordance with City standards and specifications. Project impacts on drainage and runoff would be less than significant.

g, h) Residences and Other Structures in 100-Year Floodplain.

The project would not introduce housing or other structures into the 100-year floodplain and would not involve involve encroachment into any"floodway" area. The site is located in FEMA Zone X, which is outside the 100-year floodplain.

As discussed in the Environmental Setting section, most of the project site would not be subject to potential 200-year flooding at a depth of three feet or greater (SJCPWD 2016). As noted, however, Proposed Lots 1 and 2 contain an approximately 5-foot depression, which would result in localized 200-year flood depths of greater than three feet. As discussed above, the depression will be filled with engineered fill then graded to conform with the surrounding land. This element of the project would reduce potential exposure to 200-year flooding to a level that would be less than significant.

i) Exposure to Flooding from Dam Failure

The project site is subject to potential inundation from failure of specific dams and dikes. The probability of failure of these facilities is low at a given time, and these facilities are subject to inspection that would reveal any impending failures. Pixley Slough has levees along its banks, but the project site is unlikely to be subject to inundation from levee failure due to its distance from Pixley Slough. Project impacts related to dam or levee failure are considered less than significant.

j) Seiche, Tsunami, and Mudflow Hazards.

The project site is in a topographically flat area distant from large bodies of water. Because of this, the project would not be subject to seiche, tsunami or mudflow hazards. The project would have no impact related to this issue.

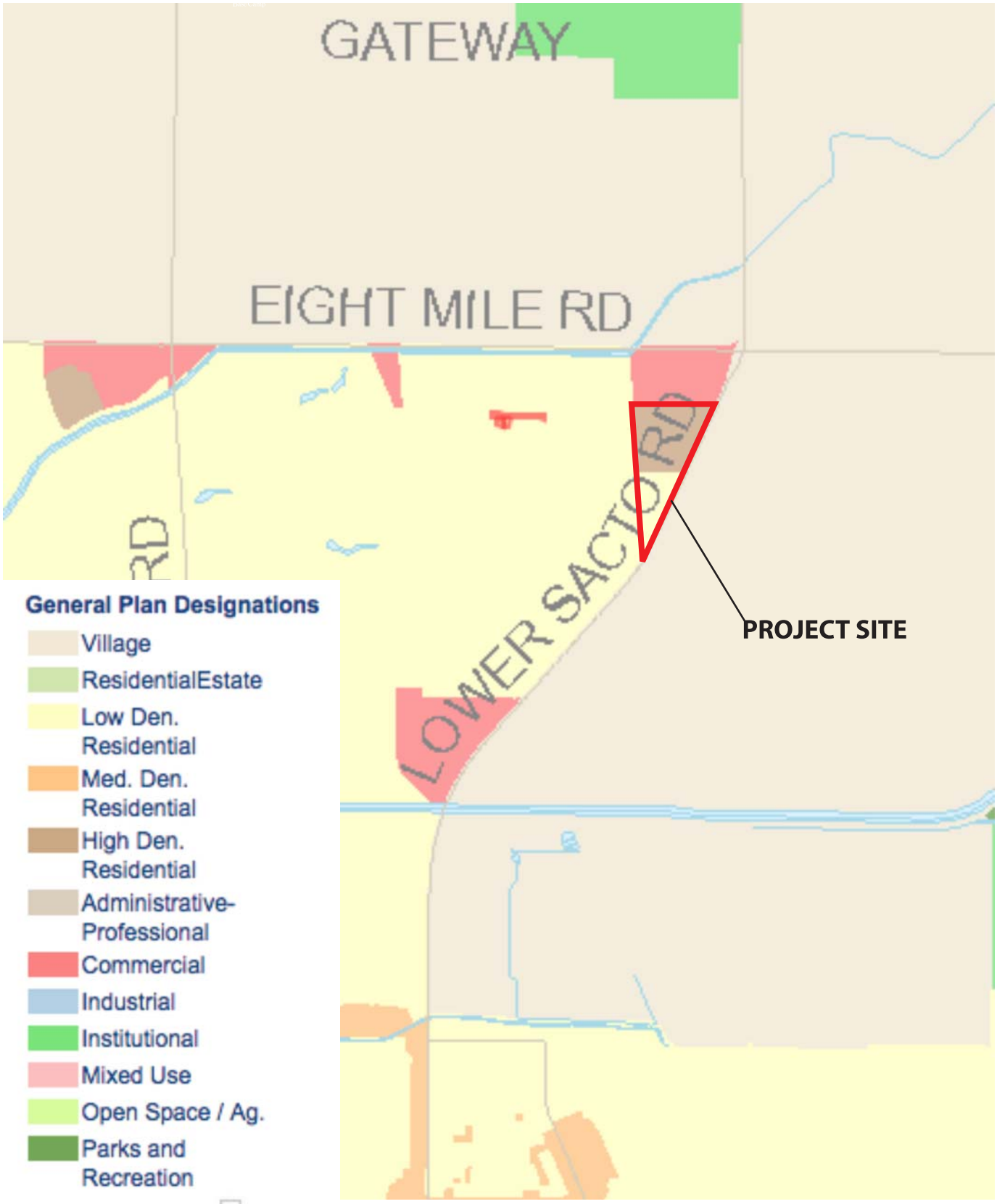
3.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			✓	
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?				✓

NARRATIVE DISCUSSION

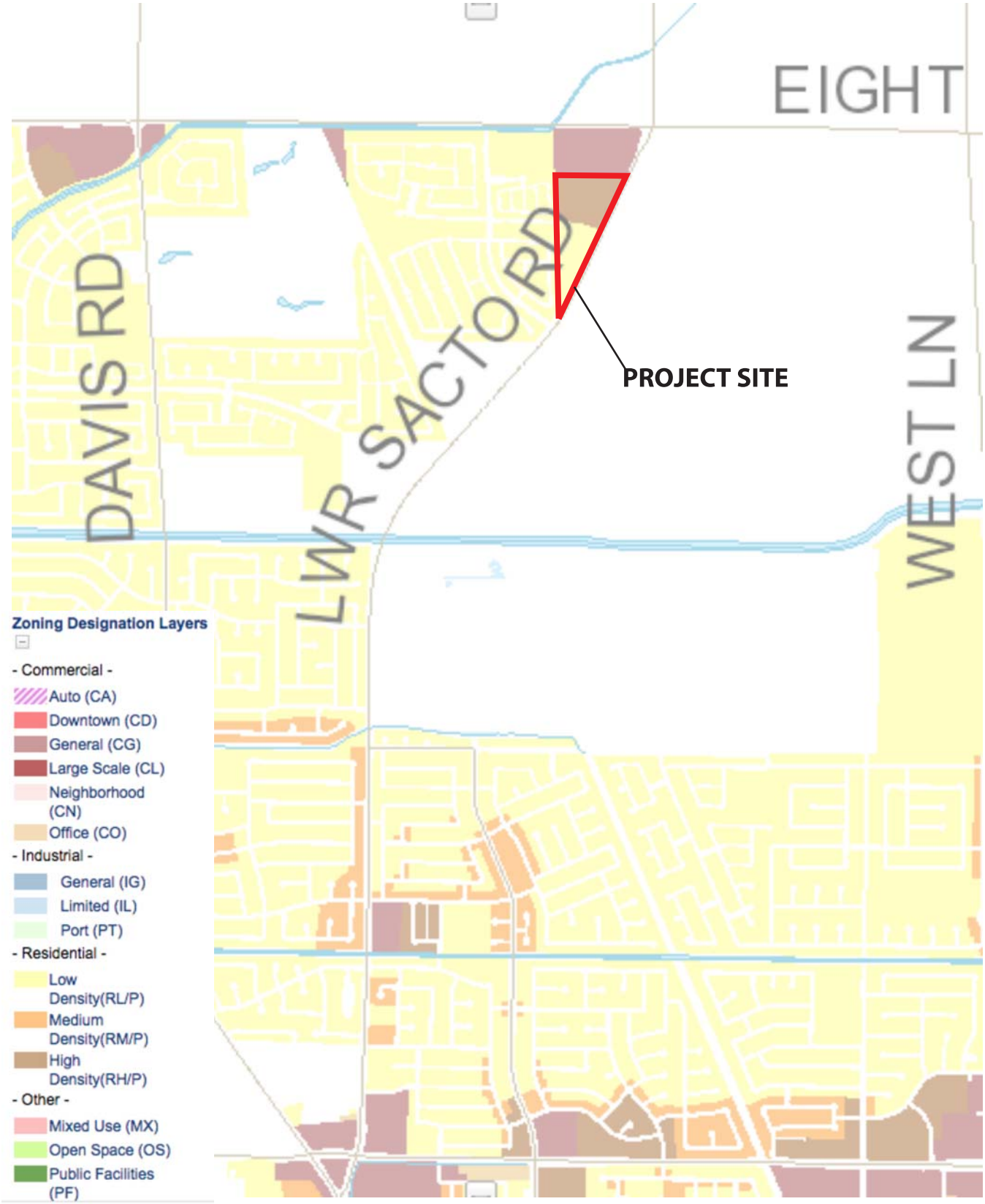
Environmental Setting

Land uses surrounding the site consist of undeveloped land to the north and the south; orchards, a church, and a firearm repair facility to the east; and a new residential development to the west. Lower Sacramento Road is immediately east of the project site, which is a (two-lane) north-south arterial street that runs from Turner Road in Lodi to East Hammer lane in Stockton. South of the project site, most of the Lower Sacramento Road frontage is developed with residential uses.



SOURCE: City of Stockton

Figure 3-1
GENERAL PLAN MAP



SOURCE: City of Stockton

Figure 3-2
ZONING MAP

The project site is vacant land, which is located in the City of Stockton and planned for future urban development. The southern portion of the project site is designated Low Density Residential while the northern portion (Lot43) is designated High Density Residential in the current Stockton General Plan. The current City zoning for the southern half of the project is RL- Residential, Low Density Residential and the northern half is zoned RH - Residential, High Density. Lands north of the project site are currently designated as Commercial in the current Stockton General Plan and the current City zoning is Commercial, General (CG).

Lands to the east of the site, which are in the jurisdiction of San Joaquin County, are designated for urban development in both the Stockton and San Joaquin County General Plans. These unincorporated lands are zoned AU-20 Agriculture-Urban Reserve by the County. With a few exceptions, these lands are used for agriculture, as described in Section C (2), Agriculture and Forestry Resources.

Environmental Impacts and Mitigation Measures

a) Division of Established Communities.

The project site is located adjacent to an existing residential community; the project will contribute to planned expansion of this community, consistent with existing general plan designations and zoning. The proposed residential uses are consistent with existing and planned surrounding land uses. The project would have no impact on established communities.

b) Conflict with Applicable Plans, Policies and Regulations.

The proposed project is consistent with the current General Plan and zoning designation for the site. The site is designated Low Density Residential (RL) on the south side of Villa Pointe Dr. and High Density Residential (RH) on the north side of Villa Point Dr. The project applicant is requesting a Planned Development (PD) permit for the proposed residential development of the project site. The PD would allow for a private street, smaller lot sizes and a greater amount of required open space consistent with City zoning requirements. Project impacts would be less than significant.

c) Conflict with Habitat Conservation Plans.

As discussed in Section 3.4, Biological Resources, the project would pay habitat conservation fees and implement incidental take minimization measures (ITMM) in accordance with the SJMSCP, as set forth in Mitigation Measure BIO-1. The project would have no other impacts related to this plan, and therefore would have no impact related to this issue.

3.12 MINERAL RESOURCES

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?				✓
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?				✓

NARRATIVE DISCUSSION

Environmental Setting

The City of Stockton has not identified any mineral resources in the vicinity of the project site (Mintier 2007a). The California Geological Survey, previously known as the California Division of Mines and Geology, has classified portions of the state into Mineral Resource Zones (MRZs). The project site and vicinity are classified as being within MRZ-1, indicating that no significant mineral deposits have been identified (Jensen and Silva, 1988).

Environmental Impacts and Mitigation Measures

a, b) Availability of Mineral Resources.

There are no identified mineral resources areas on the project site. The project would have no effect on the availability of or access to locally designated or known mineral resources. The project would have no impact on mineral resources.

3.13 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				✓
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
		✓		

d) A substantial temporary or periodic increase in ambient levels in the project vicinity above levels existing without the project?				
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 expose people residing or working in the project area to excessive noise levels?			✓	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Information for much of this section is provided by Table 4.11-14 of the Stockton General Plan 2040 Draft EIR (2018) and the noise study prepared by Brown-Buntin Associates, Inc. (BBA) for the North Stockton Projects SEIR (2005). The noise study included consideration of the project site and future development of Lot 43, both part of the North Stockton Annexation.

Noise Background

Noise is often described as unwanted sound, which is any pressure variation in air that the human ear can detect. Since measuring sound by pressure would require a large and awkward range of numbers, the decibel (dB) scale was devised. This scale is typically adjusted for perception of loudness by the standardized A-weighting network, which provides a strong correlation between A-weighted sound levels (expressed as dBA) and community noise.

Residential development is considered a "sensitive receptor" for noise. The City of Stockton considers outdoor noise levels of up to 60 dB Ldn to be acceptable in residential areas, with levels of up to 65 dB Ldn acceptable if best available noise reduction technology is incorporated (City of Stockton, 2007). Indoor noise levels of no greater than 45 dB Ldn are acceptable in residential areas with windows and doors closed.

Existing Noise Conditions

The noise environment at the project site and in the vicinity of the project is primarily related to traffic noise on Lower Sacramento Road and Eight Mile Road. Traffic noise levels along Lower Sacramento Road under existing conditions are 68.9 dBA CNEL within 50 feet of the road centerline and 60 dBA CNEL within 196 feet of the centerline. North of the project site, existing noise levels along Eight Mile Road are described as 69.1 dBA CNEL within 50 feet of the centerline and 60 dBA CNEL within 201 feet of the centerline (City of Stockton, 2018).

Other than traffic, there are no other significant noise sources in the vicinity of the project. Surrounding lands are largely vacant, and an existing residential area west of the site is not a

substantial noise contributor. The Union Pacific Railroad is located approximately 2,000 feet west of the project site and does not produce significant noise or vibration on the project site.

Projected Future Noise Levels

Under cumulative development conditions, the analysis assumed buildout of all approved projects as proposed in conjunction with the previous EIR, plus buildout of the remainder of the Stockton General Plan area according to the existing General Plan designations. Table 4.11-14 of the Stockton General Plan 2040 EIR predicted future traffic noise on Lower Sacramento Road and Eight Mile Road. Traffic noise levels along the project site frontage on Lower Sacramento Road under cumulative conditions would be 70.3 dBA CNEL within 50 feet of the Lower Sacramento Road centerline; and north of the project site, cumulative noise levels along Eight Mile Road are projected at 71.0 dBA CNEL within 50 feet of the roadway centerline (City of Stockton, 2018).

Environmental Impacts and Mitigation Measures

a) Exposure to Noise Exceeding Local Standards.

Development of the Elderberry project would involve the construction of single-family residential units with back yards located as close as 72 feet from Lower Sacramento Road centerline. Future development of multi-family units on Lot 43 would be constructed no closer than 700 feet from the centerline of Eight Mile Road. A six-foot noise barrier along Lower Sacramento Road is included in the development of the Elderberry project.

Development of the proposed project would involve the construction of Villa Point Drive from Lower Sacramento Road. All lots along the south side of Villa Point Drive will be back-up lots and will include a six-foot masonry wall. This would result in a noise attenuation of at least 5 dB.

The City's noise study concludes that noise standards for interior spaces of 45 dBA Ldn would be met for single-story residences or the first floor of two-story residences within the Elderberry project with standard residential construction practices, the addition of the masonry perimeter wall and adequate ventilation systems to allow windows and doors to remain closed under any weather condition.

Based on the cumulative noise levels, all existing roadways in the vicinity of the proposed project, as well as future local streets within the project site, would be reduced to 65.0 dB Ldn or less with planned perimeter noise barrier height. The Stockton General Plan allows outdoor noise levels of up to 65 dB Ldn if best available noise reduction technology is incorporated.

Mitigation Measures:

NOISE-1: Site and building plans for any two-story or taller homes located along the eastern boundaries of the project site shall be reviewed by a qualified acoustical professional to ensure that City outdoor and indoor noise standards are met.

NOISE-2: Air conditioning or other suitable mechanical ventilation shall be provided in all residential units to allow all residents to close windows and doors to reduce noise levels.

b) Exposure to Groundborne Noise.

Groundborne vibration is not a common environmental problem. It is typically associated with transportation facilities, although it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment. The project would involve none, or be in proximity to any, of these potential noise sources, so it is anticipated that the project would not be exposed to groundborne vibrations nor would proposed land uses generate substantial vibrations. The project would have no impact related to groundborne vibrations.

c) Permanent Increase in Ambient Noise.

The project would result in a localized permanent increase in ambient noise levels over existing conditions, as the site is currently vacant. As noted in a) above, noise levels are not expected to exceed established City standards. Project impacts on permanent noise levels are considered less than significant.

The project would generate new traffic (Section 3.16 Transportation) that would be added to existing traffic levels. Neither the Elderberry project nor the future multi-family development of Lot 43 would generate sufficient traffic to cause significant noise increases on local roadways. Project-generated traffic for both Elderberry and future development of Lot 43 is included in the future traffic noise estimates described in the Stockton General Plan.

d) Temporary or Periodic Increase in Ambient Noise.

Construction of the proposed project would involve temporary increases in ambient noise levels, due to the use of construction equipment and vehicle traffic to and from the construction site. Although project construction noise would cease once construction work is completed, this is considered a potentially significant short-term impact, as the project site is near existing residential development.

Stockton Municipal Code Section 16.60.030(A) prohibits the operation of construction equipment on private property such that the sound creates a noise disturbance across a residential property line during the hours of 10:00 p.m. to 7:00 a.m. This would limit the time noise generated by construction activities would reach residences. In addition, mitigation described below would reduce the volume of construction noise, thereby reducing impacts to a level that would be less than significant.

Mitigation Measures:

NOISE-3: Temporary noise impacts resulting from project construction shall be minimized by restricting hours of operation by noise-generating equipment to 7:00 a.m. to 10:00 p.m. Monday through Friday, and to 7:00 a.m. to 6:00 p.m. on Saturday and Sunday when such equipment is to be used near noise-sensitive land uses, and by requiring residential type mufflers where applicable.

e, f) Public Airport and Private Airstrip Operations Noise.

The project site is not located within an airport land use plan area or area of influence. The runway for the private airport is orientated east to west and therefore, typical take-off and landing patterns would not cause substantial noise effects on the project site. Noise associated with airport operation is therefore considered less than significant.

3.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

NARRATIVE DISCUSSION

Environmental Setting

As of January 1, 2018, the population of Stockton was estimated at 315,103. Stockton had an estimated 100,593 housing units as of January 1, 2018. Single-family detached units (typical houses) accounted for approximately 64.6% of total housing units in Stockton, with multifamily units of two or more per building accounting for 26.9% (California Department of Finance 2018).

Environmental Impacts and Mitigation Measures

a) Population Growth Inducement.

The 55+ project would induce growth by creating 42 new single-family residences. At the citywide occupancy rate of 3.14 residents per residence, this would result in a potential population increase of 132 people. Because the project would be age-restricted to 55 and older, the actual occupancy rate would likely be less. The 55+ site is designated for Low-Medium Density Residential development. Proposed residential development would not exceed the allowable residential density within this designation; residential growth caused by this project is anticipated by the current Stockton General Plan.

b, c) Displacement of Housing or People.

The project site is vacant; therefore, no housing units or persons would be displaced. Conversely, the project site would provide additional housing through planned residential development. The project would have no impact on this issue.

3.15 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new r 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?			✓	
b) Police protection?		✓		
c) Schools?				✓
d) Parks?			✓	
e) Other public facilities?				✓

NARRATIVE DISCUSSION

Environmental Setting

The project is located within the City of Stockton. Public services are provided to the project area by the Stockton Fire Department, the Stockton Police Department and the Lodi Unified School District. The City also provides park and recreation services. Detailed information about each of these services is provided on the City of Stockton website and the Lodi Unified School District website.

The Stockton Fire Department provides fire protection services for the project area. The Fire Department has 12 stations throughout the Stockton metropolitan area. The closest station to the project site is Station 14, located at 3019 McNabb Street, approximately 2.8 miles west of the project site. The station is equipped with one engine and three firefighters. The second responder would be Station 7, which is another single engine company with three firefighters, located at 1767 West Hammer Lane, approximately 3.5 miles southwest of the project site. All public fire protection agencies in San Joaquin County operate under a master mutual aid agreement, under which other fire agencies may be called upon to provide assistance should the resources of one agency be exhausted (San Joaquin County 2009). According to the City of Stockton Municipal Service Review, the Stockton Fire Department has a standard for fire response of five minutes or

less. However, the average response time by all station locations within the City is four minutes or less, including Station 14 which serves the project site (2007).

The Stockton Police Department provides law enforcement services for the project area. The main station is located at 22 East Market Street, approximately 13 miles south of the project site. It is the Police Department's policy to respond to all emergency calls within a period of five to seven minutes of period. The Police Department has no adopted service levels

The project area is within the boundaries of the Lodi Unified School District, which provides school services from kindergarten to 12th grade. Ronald E. McNair High School is located at 9550 Ronald E. McNair Way, 1.1 miles southeast of the proposed project. The closest elementary school is Podesto Ranch Elementary located at 9950 Windmill Park Drive, approximately 1.2 miles from the site.

Park and recreation facilities are provided to incorporated areas by the City of Stockton Parks and Recreation Department. The nearest City park is Pitts Park, approximately 0.3 miles west of the project site. This park is equipped with picnic tables, playgrounds, sports fields, and barbeques. San Joaquin County manages Oak Grove Park, approximately 2.5 miles north of the project site. This park is located at 4520 W Eight Mile Road in Stockton and is home to 10-acre Oak Grove Lake, which is stocked with catfish and trout and has paddle boats and aqua cycles available for rent. The park has a nature center, two nature trails, and a youth campground.

The project site is also served by the Cesar Chavez Main Library on Oak Street in downtown Stockton.

Environmental Impacts and Mitigation Measures

a) Fire Protection.

The project would generate a demand for fire protection services, but it can be served by the Stockton Fire Department without new or expanded fire protection facilities. As noted above, Station 14 is approximately 2.8 miles from the project site, so availability of service and response times would not be issues. While new facilities would are not required as a result of the project, future development is required by ordinance to pay Public Facility Fees (PFFs) to the City for future construction of Fire Department facilities that may be required elsewhere in The City. With required payment of PFFs, which are collected at the time of building permit issuance, the project would have a less than significant effect on fire protection facilities.

The project is subject to the standard requirements of the City's adopted California Fire Code regarding placement of fire hydrants, adequacy of water supply to the site, and emergency access. It also would be subject to the City's adopted Building and Electrical Codes with their applicable provisions related to fire safety, including the installation of smoke detectors and sprinkler systems. Entryways would be constructed to City standards, which consider emergency vehicle accessibility. Compliance with City codes and standards would ensure that impacts on fire protection services would be less than significant.

b) Police Protection.

The project would generate a demand for police protection services, but it can be served by the Stockton Police Department without new or expanded police protection facilities. While new facilities would not likely be required as a result of the project, new development is required by

ordinance to pay Public Facility Fees to the City for future construction of Police Department facilities when needed.

Project construction would, through the location of construction materials and equipment on the unoccupied site, involve new crime opportunities during the construction period. This issue would be addressed by the mitigation measure below. With implementation of this mitigation measure, impacts on police protection services would be less than significant.

Mitigation Measures:

SERV-1: The ODS shall coordinate with the Stockton Police Department as required during City review of site improvement and building plans to establish adequate security and visibility of the construction site.

c) Schools.

The project site is within the boundaries of the Lodi Unified School District. Students from kindergarten through 6th grade would attend Podesta Ranch Elementary School located at 9950 Windmill Park Drive, students from 7th through 8th grades would attend Christa McAuliffe Middle School located at 3880 Iron Canyon Circle, and students 9th through 12th grade would attend Ronald E. McNair High School located at 9550 Ronald E. McNair Way. The single-family residential development would be restricted to "seniors" only (55+). No children would reside within this development; this portion of the project would not result in student generation and would have no effect on school enrollment. There are no schools in the vicinity of the project.

To assist in meeting school construction costs, the LUSD collects developer fees in accordance with state law. LUSD has an approved School Facility Fee Justification Report for Residential, Commercial and Industrial Development Projects (2016). State law requires that Senior Citizen Restricted housing be subject to a lower school impact fee than non-restricted housing. The commercial/industrial school impact fee of $0.56 per square foot has historically been charged for age-restricted senior projects such as the proposed neighborhood.

d, e) Parks and Other Public Facilities.

See Section 3.15, Recreation, below. The project will have a less than significant effect on City park facilities. The project would have no known effect on other public facilities.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			✓	
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?				

NARRATIVE DISCUSSION

Environmental Setting

Park and recreation facilities are provided to incorporated areas by the City of Stockton Parks and Recreation Department. As mentioned in Section 3.14 Public Services, the nearest City park is Pitts Park, approximately 0.3 miles west of the project site. This park is equipped with picnic tables, playgrounds, sports fields, and barbeques.

San Joaquin County manages Oak Grove Park, approximately 2.5 miles north of the project site. This park is located at 4520 W Eight Mile Road, Stockton and is home to 10-acre Oak Grove Lake, which is stocked with catfish and trout; paddle boats and aqua cycles are available for rent. The park has a nature center, two nature trails, and a youth campground.

Environmental Impacts and Mitigation Measures

a, b) Recreational Facilities.

The project will generate new residential population that will increase park demands in the project neighborhoods and in the City as a whole. Park demands generated by the North Stockton Projects Phase 3 were accounted for in the designation and improvement of Pitts Park. Thus, neighborhood park facility requirements for the project neighborhood have been met. The proposed project will, however, be required to pay Public Facilities Fees toward the acquisition, development and improvement of parks and other recreational facilities in the project area and the City as a whole.

The project would add as many as 132, aged 55+ residents to the eastern portion of NSP Phase 3, . While new park facilities would not likely be required as result of either project, both the proposed aged 55+ project would include on-site open space and recreation facilities and would be required to pay Public Facility Fees for parks as described above. The Elderberry project site is a Planned Development and is required to include private amenities lots to serve the residents. As discussed in Chapter 2.0, the project would include a community center and landscaped open space areas.

The City of Stockton has established the Stockton Consolidated Landscape Maintenance District (CLMD) #96-2 to provide a mechanism for funding the maintenance of existing public parks. Funding for public park maintenance requirements associated with the project will be provided by annexation of the development into the CLMD. The annexation requirement will, as a routine matter of subdivision processing under Stockton Municipal Code 16.188, be required of the project as a condition of Tentative Map approval. The condition of approval will require the ODS to form a new zone, or annex to an existing zone, of CLMD #96 and approve an assessment requiring payment of the project's proportionate share of maintenance costs for any public parks within the service area for this subdivision or serving this subdivision. These requirements will provide assurance that ongoing park maintenance funding will be provided and that this potential environmental effect will be less than significant.

3.17. TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			✓	
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			✓	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				✓
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e) Result in inadequate emergency access?			✓	
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓	

NARRATIVE DISCUSSION

Environmental Setting

This section is based on a traffic impact analysis (TIA) for the North Stockton Projects Phase 3 project prepared by KD Anderson & Associates in 2004; for the purposes of this discussion, the TIA will be referred to as the "2004 TIA." The 2004 TIA included consideration of the overall traffic effects of proposed development of NSP Phase 3, including residential development of the Elderberry project site and future development of Lot 43. The validity of the 2004 TIA with respect to the project in the present day was reconsidered by KD Anderson (2019). The 2004 TIA together with the 2019 are both shown in Appendix D; the 2004 and 2019 analyses include detailed descriptions of the methodology used to analyze project traffic impacts.

Streets and Traffic Volumes

Existing streets in the project vicinity that would be subject to traffic effects from the proposed project include the following:

At the time of the 2004 TIA, Lower Sacramento Road was a two-lane facility (in the vicinity of the project site) with a speed limit of 55 mph and operating at level of service (LOS) E; Lower Sacramento Road is a major arterial that serves sub-regional traffic between Stockton and Lodi. Since preparation of the 2004 TIA and the previous EIR, Lower Sacramento Road has been widened to four lanes south of Eight Mile Road, and a grade separation has been constructed at its crossing of the Union Pacific Railroad, approximately 1,000 feet south of the site, resulting in substantial improvements in LOS. The 2016 average daily traffic (ADT) volume on Lower Sacramento Road between Bear Creek and Eight Mile Road, the segment adjacent to the project site, was 14,850 (City of Stockton 2016b).

Eight Mile Road is an east-west arterial roadway that connects Interstate 5 (I-5) and State Route 99. It has two lanes immediately north of the project site, but has been widened to four or more lanes in conjunction with railroad grade separation projects and adjacent urban development, including the project immediately west of the site. In the vicinity of the project site, Eight Mile Road has a speed limit of 55 mph and operates at a LOS A between Davis Road and Lower Sacramento Road. and LOS F between Lower Sacramento Road and West Lane. The average daily traffic (ADT) volume on Eight Mile Road between Davis Road and Lower Sacramento Road, the segment north of the project site, is 15,390 (City of Stockton 2016b).

The intersection of Eight Mile Road and Lower Sacramento Road has not been improved substantially and remains an intersection of two-lane roads with turn pockets on all four approaches. North of Eight Mile Road, San Joaquin County recently completed a widening of Lower Sacramento Road to four lanes between Eight Mile and Harney Lane in Lodi.

Bicycle Circulation Systems

The City of Stockton has an extensive network of bicycle facilities, including off-street trails and paths, as well as on-street bicycle lanes and routes. Many of these facilities also support pedestrian travel. The City of Stockton Bikeway Plan presents a description of existing and future bicycle facilities in the vicinity of the proposed project site, including a Class III bike lane that is to be located along the project frontage on Lower Sacramento Road when that street section is widened.

Pedestrian Circulation System

There are no existing sidewalks along Lower Sacramento Road or Eight Mile Road in the vicinity of the project site. Sidewalks exist along Lower Sacramento Road in the vicinity of the UPRR grade separation. Sidewalks have been constructed within the Destinations neighborhood to the west of the site that extend to the west site boundary along Point Villa Drive.

Other Transportation

Public transit services in Stockton are provided by the San Joaquin Regional Transit District (SJRTD). There are no existing SJRTD bus routes at the project site, but the SJRTD Short Range

Transit Plan indicates that future Bus Rapid Transit routes are planned along Lower Sacramento Road and Eight Mile Road.

Transportation Policies

The Transportation Element of the current Stockton General Plan sets forth policies and implementation measures related to transportation. Action TR-4.1A of the Transportation Element states that the City shall maintain a Level of Service (LOS) D or better for all City streets, with some exceptions; Eight Mile Road is one of the exceptions which has a minimum LOS standard of E from Lower Sacramento Road to West Lane. LOS is a measure of traffic flow on roadways and traffic delays at intersections using a scale from A to F, with A representing the best traffic flow or shortest intersection delays and F representing the worst traffic flow or longest intersection delays.

The City of Stockton has issued Transportation Impact Analysis Guidelines for traffic impact studies. The Guidelines affirm LOS D as the minimally acceptable LOS for City streets and intersections. The Guidelines also state that increased traffic on road segments with an existing LOS of E or F (i.e., unacceptable LOS) will be considered significant if project traffic would increase traffic volumes by greater than five percent. Impacts at intersections with an unacceptable LOS would be considered significant if project traffic would increase average delay at the intersection by greater than 5 seconds.

The SJCOG adopted the latest version of its Regional Congestion Management Plan (RCMP) in 2016. The RCMP is designed to coordinate land use, air quality and transportation planning to reduce potential congestion from traffic generated by development. State statute requires all state highways be designated as a part of the RCMP. The Plan also designates a roadway and intersection network on which traffic congestion would be monitored and programs to reduce congestion would be targeted. In the project vicinity, I-5, Eight Mile Road, Thornton Road, Lower Sacramento Road, and West Lane are designated RCMP facilities.

Environmental Impacts and Mitigation Measures

a) Consistency with Applicable Plans, Ordinances and Policies.

The 2004 TIA addressed the potential traffic effects of all proposed development within the NSP Phase 3 area, including the project site, on PM peak hour traffic. The analysis considered existing and potential future traffic at four intersections:

Eight Mile Road/Lower Sacramento Road
Eight Mile Road/Destinations Drive (Marlette Road)
Lower Sacramento Road/Point Drive (Marlette Road)
Villa Point Drive/Lower Sacramento Road

As described above, the existing Eight Mile Road/Lower Sacramento Road intersection has not been substantially improved and is operating at LOS C; with the addition of approved projects under EPAP conditions, even without addition of the proposed project, the intersection would operate at LOS F. Consequently, there is a near-term need for the improvements to this intersection, as recommended in the 2004 TIA and the previous EIR, as listed below:

- An additional eastbound through lane would be required under “EPAP” and “EPAP Plus Project” conditions

- An additional eastbound through lane and an additional westbound exclusive left-turn lane (creating two left-turn lanes) would be required under "EPAP Plus Project – Maximum Density" conditions

- An additional eastbound through lane, an additional westbound exclusive left-turn lane and an additional northbound through land would be required under "Cumulative Plus Project" and "Cumulative Plus Project – Maximum Density" condition

As specified in the previous EIR, and as discussed below, NSP Phase 3 projects as well as the proposed project are required to contribute proportional share costs to intersection improvements to compensate for significant traffic effects at this intersection. Proportionate share payments will reduce the potential traffic effects of the project to a less than significant level.

The proposed project will not have a significant impact at other off-site intersections that have not been previously identified and mitigated and constructed as prescribed in the previous EIR. The proposed project consists of land uses that are consistent with the land uses as analyzed in the 2004 TIA and the previous EIR, with the exception of elimination of an elementary school site and an increase in multifamily units proposed in lieu of single-family housing units originally proposed on the Lot 43 site. As discussed in KDA 2018, however, the trip generation of the project to local streets would be more than 20% below those assigned to the previously-approved version of the project.

The previous EIR reported that the Eight Mile Road/Destinations Drive (Marlette Road) intersection would require separate northbound left and right turn lanes and an exclusive westbound left turn lane. This intersection is already signalized and the required improvements are in place.

The previous EIR also reported that signalization and turn lane improvements may be needed at the Villa Point Drive/Lower Sacramento Road intersection in the future. KDA 2018 found that this intersection was mislabeled in the 2004 TIA as "Villa Point Drive" as opposed to "Point Drive" (later renamed to Marlette Road). The Lower Sacramento Road/Marlette Road intersection is currently signalized and operates as described under mitigated conditions presented in the 2004 TIA. In addition, since the completion of the previous EIR, and in particular in conjunction with the adoption of the 2016 General Plan update, plans for future improvement along Lower Sacramento Road have been scaled back.

The proposed project includes the extension of Villa Point Drive to a new intersection with Lower Sacramento Road, which would be limited to right-in/right-out movements only. During 2018 meetings between the Elderberry project team and City staff, the need for signalization at this intersection was discussed. However, with the proposed right-in/right-out movement restriction, the proposed unsignalized intersection was considered appropriate (KDA 2018) as well as consistent with the analysis in the 2004 TIA and the previous EIR. As a result of the right-in/right-out movement restriction, this intersection is also be expected to operate at acceptable conditions without the need for signalization as originally suggested.

Under Cumulative conditions, the previous EIR indicated that the proposed project would not require any additional improvement to the area roadway system beyond the specific improvements identified for the EPAP Plus Project condition.

The project will nonetheless need to contribute to traffic improvements necessitated by the development of the NSP Phase 3 area as a whole. The project's cost participation will occur either

via the City's Public Facilities fee system or payment of proportionate share costs as required by the Stockton Municipal Code.

The City of Stockton has adopted Public Facilities Fees for Street Improvement to finance street improvements. If any of the necessary off-site intersection and/or roadway segment improvements necessitated by the project are included in the calculations for the Street Improvement Fee, payment of the current Public Facilities Fee would constitute the developer's proportionate share of participation for improvements. For improvements not included in the Public Facilities Fee calculation (including interim street improvements), the ODS would be responsible for payment of the proportionate share, based on traffic loadings, for these improvements. The proportionate share costs for needed traffic improvements related to NSP Phase 3 development were evaluated by KD Anderson in Appendix D.

In addition to improvement cost contributions, the project will dedicate the necessary 20-33-foot right-of-way along the west side of Lower Sacramento Road to the City of Stockton for street improvements. As the provision of required transportation improvements are addressed by existing City regulations and standards, the project would have a less than significant effect on transportation.

b) Conflict with Congestion Management Program.

SJCOG adopted the latest version of its Regional Congestion Management Plan (RCMP) in 2016. As discussed in a) above, the project is not expected to generate traffic at a level that would have a significant impact on roads in the vicinity. The project would have no impact on this issue. Project impacts on the RCMP are considered less than significant

c) Air Traffic Patterns.

As discussed in Hazards and Hazardous Materials, C(8), the project site is not located near a public airport. The project site is not located near air traffic patterns for private airstrips located north of the project. The project would have no impact on air traffic patterns.

d) Traffic Hazards.

The intersection of Eight Mile Road and Lower Sacramento Road is controlled by an existing signal. This intersection has more than sufficient capacity to accommodate traffic that would be generated by the project. Additionally, the intersection of Villa Point Drive and Lower Sacramento Road would be limited to right-in, right-out turn movements. Road hazard impacts are considered less than significant.

Project construction will involve movement of construction equipment onto and from the site and in-street construction to provide new sewer, water line and storm drain improvements. These activities would involve routine but potential traffic hazards. Contractors will be required to provide traffic safety control, as warranted, in conjunction with City review and approval of improvement plans.

e) Emergency Access.

Access to the project site would be provided by the driveway off Villa Point Drive, which would provide adequate access for emergency vehicles based upon review by Stockton Fire Department. The project would have less than significant impacts on emergency access.

f) Conflict with Non-vehicular Transportation Plans.

External pedestrian access to the site would be provided from construction of new sidewalks along Lower Sacramento Road and Villa Point Drive. Within the proposed ages 55+ development, sidewalk would be constructed for internal circulation along one side of the proposed private street as shown on the Planned Development Plan, Figure 2-2. The site as a whole is designed to encourage people to freely move around the open space of the subdivision.

The project is not expected to interfere with future plans for the installation of bike routes in the vicinity, as described in the City's Bicycle Master Plan adopted in December 2017. The project will provide additional right-of-way along Lower Sacramento Road, which will contribute to pavement width needed to install planned bike lanes. The ages 55+ residential project would also install sidewalks along Villa Point Drive and the Lower Sacramento Road frontage, which would increase the safety of any pedestrian traffic in the area. Project impacts on non-vehicular transportation plans are considered less than significant.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or		✓		
b) 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.		✓		

NARRATIVE DISCUSSION

Environmental Setting

In 2014, the California Legislature enacted AB 52, which focuses on consultation with Native American tribes on land use issues potentially affecting the tribes. The intent of this consultation is to avoid or mitigate potential impacts on "tribal cultural resources," which are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe." More specifically, Public Resources Code Section 21074 defines tribal cultural resources as:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included or determined to be eligible for inclusion in the California Register of Historical Resources, or included in a local register of historical resources; or

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 [i.e., eligible for inclusion in the California Register of Historical Resources].

Under AB 52, when a tribe requests consultation with a CEQA lead agency on projects within its traditionally and culturally affiliated geographical area, the lead agency must provide the tribe with notice of a proposed project within 14 days of a project application being deemed complete or when the lead agency decides to undertake the project if it is the agency's own project. The tribe has up to 30 days to respond to the notice and request consultation; if consultation is requested, then the local agency has up to 30 days to initiate consultation. In 2016, the Governor's Office of Planning and Research updated Appendix G of the CEQA Guidelines to include sample questions specifically addressing tribal cultural resources. These questions have been incorporated within this IS/MND.

The City of Stockton provided notice of the proposed project to tribes that had previously requested notification under AB 52 on May 17, 2018. The tribes notified included the following:

American Indian Council of Mariposa County
Buena Vista Rancheria of Me-Wuk Indians
California Valley Miwok Tribe
Ione Band of Miwok Indians, Yvonne Miller
Ione Band of Miwok Indians, Randy Yonemura
Torres Martinez Desert Cahuilla Indians
Northern Valley Yokuts
Wilton Rancheria, Environmental Resources Department, Raymond Hitchcock
Wilton Rancheria, Environmental Resources Department, Steven Hutchason
United Auburn Indian Community (UAIC) of the Auburn Rancheria

Of the tribes contacted, only the UAIC requested consultation with respect to the project; the UAIC request and related communication occurred primarily by email. No other tribes requested AB 52 consultation. The UAIC requested a site visit so that the tribal representative could assess the potential tribal cultural resource sensitivity of the site, with the understanding that any further recommendations from the tribe would follow the site visit. Due to schedule conflicts, BaseCamp Environmental staff attended the site visit on behalf of the City. BaseCamp Environmental representatives Charlie Simpson and August McNab met UAIC representative Marcus Guerrero on June 26, 2018 at approximately 2:00 PM near the northeast corner of the project site, that is, the northeast corner of Lot 43. After a brief discussion, all three participants began an inspection of the site and discuss its potential tribal cultural resource sensitivity. After a brief and partial inspection of the site, Mr. Guerrero stated that the UAIC would have no further tribal cultural resource interest in this site. At this point, all parties departed the site.

The UAIC submitted recommended cultural resource mitigation measures, which were reviewed and revised by the City and returned to the tribe for review and approval. On May 28, 2019, the tribe concurred with the City's draft mitigation measures and agreed to close the consultation

process provided the recommended mitigation measures were included in the project. The referenced mitigation measures are shown below.

Environmental Impacts and Mitigation Measures

a,b) Tribal Cultural Resources.

Section 3.5 Cultural Resources discusses previous archaeological surveys and the existence of sensitive cultural resources in the general vicinity of the project site. As discussed above, the City has provided required AB 52 notification to tribal organizations and consulted with one tribe, the United Auburn Indian Community (UAIC). The consultation resulted in the identification of mitigation measures that were satisfactory to both UAIC and the City, and on this basis the consultation was concluded. The referenced mitigation measures are listed below and are intended to be combined with Mitigation Measures CULT-1 and CULT-2 in Section 3.5 Cultural. Implementation of these measures will reduce the project's potential for impacts on tribal cultural resources to a less than significant level.

Mitigation Measures:

TCR-1: Mitigation Measures CULT-1 and CULT-1 shall also be implemented to address potentially significant effects relating to Tribal Cultural Resources.

TCR-2: If potential Tribal Cultural Resources are discovered during construction activities, work shall immediately cease within 100 feet of the find, and the ODS shall: (a) notify the City of Stockton and United Auburn Indian Community; and (b) retain a qualified cultural resources specialist to assess the significance of the find. If the discovery concerns human remains, Mitigation Measure CULT-2 shall apply.

TCR-3: The assessment required by Mitigation Measure TCR-2 shall include full participation by the United Auburn Indian Community including, but not limited to, the tribe's ability to observe and participate in all on-site data-gathering activities.

TCR-4: If the City of Stockton determines that a Tribal Cultural Resources are present and that the project would result a substantial adverse change to them, it shall consult the United Auburn Indian Community on appropriate mitigation measures. Said consultation shall include, but not be limited, consideration of those mitigation measures listed at CEQA §21084.3. The ODS shall, in turn, implement those measures to the satisfaction of the City of Stockton.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			✓	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
d) Are sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			✓	
e) Has the wastewater treatment provider which serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
f) Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Comply with federal, state and local statutes and regulations related to solid waste?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Sewage treatment services for development in the City are provided at the City's Regional Wastewater Control Facility (RWCF), located on Navy Drive in Stockton. The RWCF currently processes approximately 33 million gallons per day (mgd) of wastewater on average and has a treatment capacity of 55 mgd. An existing 12-inch diameter sewer line is located in Villa Point Drive.

The City of Stockton Department of Municipal Utilities provides water service in the project vicinity. The City relies on both surface and groundwater for its supplies. Total water demand in 2015 was 24,843 acre-feet. The City has a total water right or safe yield capacity of 96,480 acre-feet (Brown and Caldwell 2016). A 12-inch line is located along Villa Point Drive (City of Stockton 2008b).

As discussed in more detail in Section 3.9 Hydrology and Water Quality, the City of Stockton has adopted a Storm Water Management Plan and a Storm Water Quality Criteria Plan that provide standards and guidelines for maintenance of storm water quality in accordance with NPDES permit conditions. Storm water quality requirements are applicable to construction activities and permanent, post-construction drainage facilities. Post-construction storm water quality requirements are accounted for in the design of existing storm drainage facilities for the North Stockton Projects Phase 3 area, as described below.

Existing storm drainage facilities in the project area are managed by the City of Stockton. The storm drainage connection point for the project would be an existing 42-inch storm drain in Villa Point Drive at the project frontage. This line drains west to an existing multi-stage storm drainage treatment and detention facility that is integrated into the design of Pitts Park. The Pitts Park facility was designed, approved and constructed to serve the entire North Stockton Phase 3 area, including the proposed project site under the City's 2006 Storm Water Master Plan, and the applicable State storm water quality standards in effect at the time.

The 2006 standards did not require control of stormwater discharge quantity. The existing facility provides for minimum storage of a 10-year storm event. As the capacity of the basin is approached, excess water is discharged to Pixley Slough via an existing pump station located just south of the Slough. In 2009, State requirements were expanded to require control of storm water discharge volume; under these requirements, storm water discharges from new development must be limited to their pre-development maximums. The proposed project will need to comply with the applicable volume control requirement, although it is believed that some or all volume reduction requirement may be met within nearby Pitts Park (see Section 3.9 Hydrology and Water Quality).

The City has two franchise haulers that provide solid waste collection services. For the project site, Waste Management would provide collection service. There are three active sanitary landfills in San Joaquin County: the Forward Landfill on South Austin Road with available capacity to 2020, the North County Landfill on East Harney Lane with available capacity to 2048, and the Foothill Sanitary Landfill on North Waverly Road with available capacity to 2082 (Cal Recycle 2016).

Electrical, telephone, and cable television lines are available in the project vicinity. The state-regulated utilities operating these lines can extend them to the project site as necessary.

Environmental Impacts and Mitigation Measures

a, e) Wastewater Systems.

The project would include the extension of 8-inch sanitary sewer line to an existing 12-inch line located in Villa Point Drive into the Elderberry site along proposed private roads to service the proposed residences. On-site 8-inch collection lines would transport wastewater by gravity to the point of connection.

The RWCF currently has approximately 22 mgd of capacity to serve additional development. The proposed project would involve a minor increase in sewage generation. The City has indicated that there is sufficient capacity in the system to accommodate the proposed project. Project impacts on the City's wastewater system would be less than significant.

b, d) Water Systems and Supply.

As of 2015, the City had 96,480 acre-feet of water per year available by right or from safe yield. With 2015 water demand of 26,319 acre-feet per year deducted, the City had 70,161 acre-feet of water available to serve additional planned development (Brown and Caldwell 2016). Adequate water supply is therefore available to serve the proposed project.

Water service to the Elderberry site would be obtained from an 8-inch water line loop that would extend from the 8-inch line connection point near Lot C of the existing residential community to the west. Fire hydrants along Lower Sacramento Road would be served from the 16-inch line in the street. Fire hydrants along Point Villa Drive would be served from the 12-in line under the street. Water service to future Lot 43 would be provided by a future connection to the project site loop. The existing and proposed lines have been sized to adequately serve the project, and no significant impacts on water services are anticipated.

c) Storm Water Systems.

There are no existing impervious surfaces on the project site which is currently undeveloped. New residential development would result in construction of new impermeable surfaces that would increase runoff volumes from these areas.

Storm drainage from the 55+ residential development sites would be collected in a system of pipes that would conduct storm water to the existing 42-inch line in Villa Point Drive. Conformance with the applicable City water quality control standards, including volume reduction requirements, is required by the City's adopted storm water regulations and standards to prevent peak storm drainage discharge from exceeding existing levels. Project conformance will need to be demonstrated in engineering calculations, subject to the review and approval of the City Engineer. This requirement is discussed in more detail in Section 3.9 Hydrology and Water Quality. The project's effects on storm drainage would be less than significant

Storm drainage from Lower Sacramento Road and Villa Point Drive will also discharge to proposed storm drain lines connected to existing City lines in Villa Point Drive.

f, g) Solid Waste Services.

The project would not generate a substantial or unexpected demand for solid waste services. As indicated in Environmental Setting above, existing landfills in the County would have sufficient capacity to accommodate the amount of solid waste that would be generated by the project as well as by growth in Stockton as a whole. The project would comply with applicable federal, state and local statutes and regulations related to solid waste. Project impacts on solid waste are considered less than significant.

3.20 WILDFIRE

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?			✓	
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?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Wildland fires are an annual hazard in portions of San Joaquin County. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add to the county's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining wildland fires. High hazard areas for wildland fires are the grass-covered areas in the east and the southwest foothills of the county (San Joaquin County 2016). The project site is in an urbanizing area and surrounded primarily by intensively-farmed properties; the site is not within any of the County's high hazard areas.

The Fire and Resource Assessment Program, managed by the California Department of Forestry and Fire Protection (Cal Fire), identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones are mapped for two separate areas: State Responsibility Areas are where the State of California is financially responsible for the prevention and suppression of wildfires, while Local Responsibility Areas are where fire protection is typically provided by city fire departments, fire protection districts, counties, or by Cal Fire under contract to local government. The project site is within a Local Responsibility Area and has not been assigned a Fire

Hazard Severity Zone, as is the area surrounding the site (Cal Fire 2007). As discussed in Section __, fire control responsibility for the project site is with the Stockton Fire Department.

Environmental Impacts and Mitigation Measures

a) Emergency Response and Emergency Evacuation Plans.

The project site is not located within wildland fire hazard zone. As discussed in Section 3.8, Hazards and Hazardous Materials, project construction work is not expected to require closure or any major restriction on public use of the roads adjacent to and surrounding the site. Project operations would not obstruct any roadways, so they are not expected to substantially obstruct emergency vehicles or any evacuation activity that may be required in the area. Project impacts on emergency response or emergency evacuation plans would be less than significant.

b) Exposure of Project Occupants to Pollutants.

As noted, the project is within a Local Responsibility Area and has not been placed in a Fire Hazard Severity Zone. It is unlikely that future residents would be substantially exposed to pollutants generated by wildfires in the area. Project impacts would be less than significant.

c) Installation and Maintenance of Infrastructure.

As discussed in b) above, the project is within a Local Responsibility Area and has not been placed in a Fire Hazard Severity Zone. While the project site in undeveloped, it is in the City of Stockton and adjacent to urbanized areas. The installation of infrastructure on and near the project site is not expected to increase potential wildfire hazards in the area; water infrastructure improvements associated with the project would extend the local agency's fire protection capability. Project impacts would be less than significant.

d) Risks from Runoff, Post-Fire Slope Instability, or Drainage Changes.

As discussed in b) above, the project is within a Local Responsibility Area and has not been placed in a wildland Fire Hazard Severity Zone. The project site is in a topographically flat area, away from any slopes that may catch fire, afterwards leaving exposed slopes to rain that could cause landslides and flooding. Project impacts related to these issues are considered less than significant.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		

b) Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			✓	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

NARRATIVE DISCUSSION

a) Findings on Biological and Cultural Resources.

The project's potential biological and cultural resource impacts were described in Sections 3.4 and 3.5, respectively. Potentially significant environmental effects were identified in these issue areas, but all of the effects would be reduced to a less-than-significant level with mitigation measures (BIO-1, BIO-2 and CULT-1) that would be incorporated into the project.

The project would involve potentially significant cumulative effects on agricultural land conversion, groundwater, noise and regional ozone concerns. These effects have been considered and accepted with Statements of Overriding Considerations in conjunction with prior City approvals in the North Stockton Projects Annexation and Stockton General Plan EIRs. The proposed project would involve several other potential environmental impacts for the project that are either incidental or would be reduced to less than significant at the project level with proposed mitigation measures. With mitigation measures, these impacts would not involve substantial contributions to cumulative impacts. Potential cumulative traffic impacts of the project were specifically evaluated, and no impacts were identified that could not be reduced to a less than significant level with mitigation measures.

b) Findings on Individually Limited but Cumulatively Considerable Impacts.

As described in this Initial Study, most of the potential environmental effects of the project would either be less than significant, or the project would have no impact at all, when compared to the baseline. Where the project involves potentially significant effects, these effects would be reduced to a less-than-significant level either with proposed mitigation measures or by compliance with required permits and applicable regulations.

The potential cumulative impacts of urban development of the site were accounted for in the Stockton General Plan 2040 EIR (2018). The potential environmental effects identified in this Initial Study have been considered in conjunction with each other as to their potential to generate other potentially significant effects. The various potential environmental effects of the project would not combine to generate any potentially significant cumulative effects.

c) Findings on Adverse Effects on Human Beings.

Potential adverse effects on human beings were discussed in Section 3.6, Geology and Soils (seismic hazards); Section 3.8, Hazards and Hazardous Materials; Section 3.9, Hydrology and

Water Quality (flooding); and Section 3.16, Transportation/Traffic (traffic hazards). For many of these issues, no hazards that could have an adverse impact on humans were identified. For potential hazards that were identified, mitigation measures described in the appropriate technical section would reduce impacts to a level that would be less than significant.

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4.1 DOCUMENT PREPARERS

This IS/MND was prepared by BaseCamp Environmental, Inc. The following persons were involved in preparation of the IS/MND:

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Krista Simpson, Graphics

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4.4 PERSONS CONSULTED

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5.0 NOTES RELATED TO EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

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

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

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

   a) Earlier Analyses Used: Identify and state where they are available for review.

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

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

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a

previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

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

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

9) The explanation of each issue should identify:

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

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

APPENDIX A
AIR QUALITY MODELING RESULTS

Elderberry Development

San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	42.00	Dwelling Unit	8.40	42,000.00	133

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	51
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Architectural Coating - Per SJVAPCD Rule 4601.

Woodstoves - No fireplaces to be installed.

Area Coating - Per SJVAPCD Rule 4601.

Land Use Change -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	NumberGas	23.10	0.00
tblFireplaces	NumberNoFireplace	18.90	42.00
tblWoodstoves	NumberCatalytic	8.40	0.00
tblWoodstoves	NumberNoncatalytic	8.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2361	2.1814	1.7336	3.0200e-003	0.1774	0.1183	0.2957	0.0891	0.1105	0.1996	0.0000	262.6919	262.6919	0.0637	0.0000	264.2831
2021	0.2391	0.9611	0.9634	1.6500e-003	0.0138	0.0515	0.0652	3.6800e-003	0.0483	0.0520	0.0000	143.5209	143.5209	0.0326	0.0000	144.3368
Maximum	**0.2391**	**2.1814**	**1.7336**	**3.0200e-003**	**0.1774**	**0.1183**	**0.2957**	**0.0891**	**0.1105**	**0.1996**	**0.0000**	**262.6919**	**262.6919**	**0.0637**	**0.0000**	**264.2831**

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					
2020	0.2361	2.1814	1.7335	3.0200e-003	0.0917	0.1183	0.2099	0.0433	0.1105	0.1538	0.0000	262.6916	262.6916	0.0637	0.0000	264.2828
2021	0.2391	0.9611	0.9634	1.6500e-003	0.0138	0.0515	0.0652	3.6800e-003	0.0483	0.0520	0.0000	143.5207	143.5207	0.0326	0.0000	144.3367
Maximum	**0.2391**	**2.1814**	**1.7335**	**3.0200e-003**	**0.0917**	**0.1183**	**0.2099**	**0.0433**	**0.1105**	**0.1538**	**0.0000**	**262.6916**	**262.6916**	**0.0637**	**0.0000**	**264.2828**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**44.84**	**0.00**	**23.75**	**49.40**	**0.00**	**18.21**	**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	4-13-2020	7-12-2020	1.0430	1.0430
2	7-13-2020	10-12-2020	0.7229	0.7229
3	10-13-2020	1-12-2021	0.7147	0.7147
4	1-13-2021	4-12-2021	0.6421	0.6421
5	4-13-2021	7-12-2021	0.4702	0.4702
		Highest	1.0430	1.0430

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	0.1866	3.6000e-003	0.3122	2.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5217
Energy	2.7400e-003	0.0234	9.9600e-003	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	84.3590	84.3590	3.1100e-003	1.0300e-003	84.7445
Mobile	0.0297	0.2123	0.3344	1.3700e-003	0.1044	1.1600e-003	0.1056	0.0280	1.0900e-003	0.0291	0.0000	126.2450	126.2450	5.8300e-003	0.0000	126.3908
Waste						0.0000	0.0000		0.0000	0.0000	3.9218	0.0000	3.9218	0.2318	0.0000	9.7161
Water						0.0000	0.0000		0.0000	0.0000	0.8682	6.0641	6.9322	0.0894	2.1600e-003	9.8126
Total	**0.2190**	**0.2393**	**0.6565**	**1.5400e-003**	**0.1044**	**4.7700e-003**	**0.1092**	**0.0280**	**4.7000e-003**	**0.0327**	**4.7900**	**217.1775**	**221.9674**	**0.3306**	**3.1900e-003**	**231.1856**

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	0.1866	3.6000e-003	0.3122	2.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5217
Energy	2.7400e-003	0.0234	9.9600e-003	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	84.3590	84.3590	3.1100e-003	1.0300e-003	84.7445
Mobile	0.0295	0.2102	0.3293	1.3400e-003	0.1023	1.1400e-003	0.1035	0.0274	1.0700e-003	0.0285	0.0000	123.9882	123.9882	5.7700e-003	0.0000	124.1326
Waste						0.0000	0.0000		0.0000	0.0000	0.9805	0.0000	0.9805	0.0579	0.0000	2.4290
Water						0.0000	0.0000		0.0000	0.0000	0.6945	4.8513	5.5458	0.0716	1.7300e-003	7.8501
Total	**0.2188**	**0.2372**	**0.6514**	**1.5100e-003**	**0.1023**	**4.7500e-003**	**0.1071**	**0.0274**	**4.6800e-003**	**0.0321**	**1.6750**	**213.7079**	**215.3829**	**0.1389**	**2.7600e-003**	**219.6778**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.11**	**0.88**	**0.78**	**1.95**	**1.99**	**0.42**	**1.92**	**2.00**	**0.43**	**1.77**	**65.03**	**1.60**	**2.97**	**58.00**	**13.48**	**4.98**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-40.9200
Total	**-40.9200**

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	4/13/2020	5/8/2020	5	20	
2	Site Preparation	Site Preparation	5/9/2020	5/22/2020	5	10	
3	Grading	Grading	5/23/2020	6/19/2020	5	20	
4	Building Construction	Building Construction	6/20/2020	5/7/2021	5	230	
5	Paving	Paving	5/8/2021	6/4/2021	5	20	
6	Architectural Coating	Architectural Coating	6/5/2021	7/2/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 85,050; Residential Outdoor: 28,350; 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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
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
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	30.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

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	6.0000e-004	4.3000e-004	4.2400e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0596	1.0596	3.0000e-005	0.0000	1.0603
Total	**6.0000e-004**	**4.3000e-004**	**4.2400e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0596**	**1.0596**	**3.0000e-005**	**0.0000**	**1.0603**

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

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	6.0000e-004	4.3000e-004	4.2400e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0596	1.0596	3.0000e-005	0.0000	1.0603
Total	**6.0000e-004**	**4.3000e-004**	**4.2400e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0596**	**1.0596**	**3.0000e-005**	**0.0000**	**1.0603**

3.3 Site Preparation - 2020

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.6000e-004	2.5400e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6358	0.6358	2.0000e-005	0.0000	0.6362
Total	**3.6000e-004**	**2.6000e-004**	**2.5400e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6358**	**0.6358**	**2.0000e-005**	**0.0000**	**0.6362**

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					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0407**	**0.0110**	**0.0516**	**0.0223**	**0.0101**	**0.0325**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.6000e-004	2.5400e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6358	0.6358	2.0000e-005	0.0000	0.6362
Total	**3.6000e-004**	**2.6000e-004**	**2.5400e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6358**	**0.6358**	**2.0000e-005**	**0.0000**	**0.6362**

3.4 Grading - 2020

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					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0655**	**0.0127**	**0.0783**	**0.0337**	**0.0117**	**0.0454**	**0.0000**	**26.0588**	**26.0588**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

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	6.0000e-004	4.3000e-004	4.2400e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0596	1.0596	3.0000e-005	0.0000	1.0603
Total	**6.0000e-004**	**4.3000e-004**	**4.2400e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0596**	**1.0596**	**3.0000e-005**	**0.0000**	**1.0603**

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					0.0295	0.0000	0.0295	0.0152	0.0000	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0295**	**0.0127**	**0.0422**	**0.0152**	**0.0117**	**0.0269**	**0.0000**	**26.0587**	**26.0587**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

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	6.0000e-004	4.3000e-004	4.2400e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0596	1.0596	3.0000e-005	0.0000	1.0603
Total	**6.0000e-004**	**4.3000e-004**	**4.2400e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0596**	**1.0596**	**3.0000e-005**	**0.0000**	**1.0603**

3.5 Building Construction - 2020

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	0.1473	1.3334	1.1710	1.8700e-003		0.0776	0.0776		0.0730	0.0730	0.0000	160.9689	160.9689	0.0393	0.0000	161.9507
Total	**0.1473**	**1.3334**	**1.1710**	**1.8700e-003**		**0.0776**	**0.0776**		**0.0730**	**0.0730**	**0.0000**	**160.9689**	**160.9689**	**0.0393**	**0.0000**	**161.9507**

3.5 Building Construction - 2020

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	1.1300e-003	0.0329	7.0000e-003	8.0000e-005	1.8400e-003	1.8000e-004	2.0200e-003	5.3000e-004	1.7000e-004	7.0000e-004	0.0000	7.4671	7.4671	4.6000e-004	0.0000	7.4787
Worker	8.3200e-003	5.9800e-003	0.0589	1.6000e-004	0.0166	1.1000e-004	0.0167	4.4200e-003	1.0000e-004	4.5200e-003	0.0000	14.7283	14.7283	4.1000e-004	0.0000	14.7384
Total	**9.4500e-003**	**0.0389**	**0.0659**	**2.4000e-004**	**0.0185**	**2.9000e-004**	**0.0187**	**4.9500e-003**	**2.7000e-004**	**5.2200e-003**	**0.0000**	**22.1953**	**22.1953**	**8.7000e-004**	**0.0000**	**22.2171**

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	0.1473	1.3334	1.1710	1.8700e-003		0.0776	0.0776		0.0730	0.0730	0.0000	160.9688	160.9688	0.0393	0.0000	161.9505
Total	**0.1473**	**1.3334**	**1.1710**	**1.8700e-003**		**0.0776**	**0.0776**		**0.0730**	**0.0730**	**0.0000**	**160.9688**	**160.9688**	**0.0393**	**0.0000**	**161.9505**

3.5 Building Construction - 2020

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	1.1300e-003	0.0329	7.0000e-003	8.0000e-005	1.8400e-003	1.8000e-004	2.0200e-003	5.3000e-004	1.7000e-004	7.0000e-004	0.0000	7.4671	7.4671	4.6000e-004	0.0000	7.4787
Worker	8.3200e-003	5.9800e-003	0.0589	1.6000e-004	0.0166	1.1000e-004	0.0167	4.4200e-003	1.0000e-004	4.5200e-003	0.0000	14.7283	14.7283	4.1000e-004	0.0000	14.7384
Total	**9.4500e-003**	**0.0389**	**0.0659**	**2.4000e-004**	**0.0185**	**2.9000e-004**	**0.0187**	**4.9500e-003**	**2.7000e-004**	**5.2200e-003**	**0.0000**	**22.1953**	**22.1953**	**8.7000e-004**	**0.0000**	**22.2171**

3.5 Building Construction - 2021

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	0.0865	0.7932	0.7542	1.2200e-003		0.0436	0.0436		0.0410	0.0410	0.0000	105.3950	105.3950	0.0254	0.0000	106.0306
Total	**0.0865**	**0.7932**	**0.7542**	**1.2200e-003**		**0.0436**	**0.0436**		**0.0410**	**0.0410**	**0.0000**	**105.3950**	**105.3950**	**0.0254**	**0.0000**	**106.0306**

3.5 Building Construction - 2021

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	6.0000e-004	0.0195	4.0200e-003	5.0000e-005	1.2000e-003	6.0000e-005	1.2600e-003	3.5000e-004	5.0000e-005	4.0000e-004	0.0000	4.8431	4.8431	2.9000e-004	0.0000	4.8502
Worker	5.0300e-003	3.4800e-003	0.0351	1.0000e-004	0.0109	7.0000e-005	0.0109	2.8900e-003	7.0000e-005	2.9600e-003	0.0000	9.2787	9.2787	2.4000e-004	0.0000	9.2846
Total	**5.6300e-003**	**0.0230**	**0.0392**	**1.5000e-004**	**0.0121**	**1.3000e-004**	**0.0122**	**3.2400e-003**	**1.2000e-004**	**3.3600e-003**	**0.0000**	**14.1217**	**14.1217**	**5.3000e-004**	**0.0000**	**14.1348**

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	0.0865	0.7932	0.7542	1.2200e-003		0.0436	0.0436		0.0410	0.0410	0.0000	105.3948	105.3948	0.0254	0.0000	106.0305
Total	**0.0865**	**0.7932**	**0.7542**	**1.2200e-003**		**0.0436**	**0.0436**		**0.0410**	**0.0410**	**0.0000**	**105.3948**	**105.3948**	**0.0254**	**0.0000**	**106.0305**

3.5 Building Construction - 2021

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	6.0000e-004	0.0195	4.0200e-003	5.0000e-005	1.2000e-003	6.0000e-005	1.2600e-003	3.5000e-004	5.0000e-005	4.0000e-004	0.0000	4.8431	4.8431	2.9000e-004	0.0000	4.8502
Worker	5.0300e-003	3.4800e-003	0.0351	1.0000e-004	0.0109	7.0000e-005	0.0109	2.8900e-003	7.0000e-005	2.9600e-003	0.0000	9.2787	9.2787	2.4000e-004	0.0000	9.2846
Total	**5.6300e-003**	**0.0230**	**0.0392**	**1.5000e-004**	**0.0121**	**1.3000e-004**	**0.0122**	**3.2400e-003**	**1.2000e-004**	**3.3600e-003**	**0.0000**	**14.1217**	**14.1217**	**5.3000e-004**	**0.0000**	**14.1348**

3.6 Paving - 2021

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

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	5.5000e-004	3.8000e-004	3.8600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0196	1.0196	3.0000e-005	0.0000	1.0203
Total	**5.5000e-004**	**3.8000e-004**	**3.8600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0196**	**1.0196**	**3.0000e-005**	**0.0000**	**1.0203**

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

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	5.5000e-004	3.8000e-004	3.8600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0196	1.0196	3.0000e-005	0.0000	1.0203
Total	**5.5000e-004**	**3.8000e-004**	**3.8600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0196**	**1.0196**	**3.0000e-005**	**0.0000**	**1.0203**

3.7 Architectural Coating - 2021

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	0.1314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.1336**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.5400e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4079	0.4079	1.0000e-005	0.0000	0.4081
Total	**2.2000e-004**	**1.5000e-004**	**1.5400e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4079**	**0.4079**	**1.0000e-005**	**0.0000**	**0.4081**

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	0.1314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.1336**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.5400e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4079	0.4079	1.0000e-005	0.0000	0.4081
Total	**2.2000e-004**	**1.5000e-004**	**1.5400e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4079**	**0.4079**	**1.0000e-005**	**0.0000**	**0.4081**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0295	0.2102	0.3293	1.3400e-003	0.1023	1.1400e-003	0.1035	0.0274	1.0700e-003	0.0285	0.0000	123.9882	123.9882	5.7700e-003	0.0000	124.1326
Unmitigated	0.0297	0.2123	0.3344	1.3700e-003	0.1044	1.1600e-003	0.1056	0.0280	1.0900e-003	0.0291	0.0000	126.2450	126.2450	5.8300e-003	0.0000	126.3908

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	100.80	85.26	81.90	277,843	272,286
Total	100.80	85.26	81.90	277,843	272,286

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Retirement Community	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
Retirement Community	0.556917	0.035296	0.183646	0.120139	0.017882	0.004687	0.016156	0.056151	0.001190	0.001453	0.005055	0.000610	0.000818

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	57.2424	57.2424	2.5900e-003	5.4000e-004	57.4667
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	57.2424	57.2424	2.5900e-003	5.4000e-004	57.4667
NaturalGas Mitigated	2.7400e-003	0.0234	9.9600e-003	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.1166	27.1166	5.2000e-004	5.0000e-004	27.2778
NaturalGas Unmitigated	2.7400e-003	0.0234	9.9600e-003	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.1166	27.1166	5.2000e-004	5.0000e-004	27.2778

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					
Retirement Community	508146	2.7400e-003	0.0234	9.9600e-003	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.1166	27.1166	5.2000e-004	5.0000e-004	27.2778
Total		**2.7400e-003**	**0.0234**	**9.9600e-003**	**1.5000e-004**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**27.1166**	**27.1166**	**5.2000e-004**	**5.0000e-004**	**27.2778**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Retirement Community	508146	2.7400e-003	0.0234	9.9600e-003	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.1166	27.1166	5.2000e-004	5.0000e-004	27.2778
Total		**2.7400e-003**	**0.0234**	**9.9600e-003**	**1.5000e-004**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**27.1166**	**27.1166**	**5.2000e-004**	**5.0000e-004**	**27.2778**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	196769	57.2424	2.5900e-003	5.4000e-004	57.4667
Total		**57.2424**	**2.5900e-003**	**5.4000e-004**	**57.4667**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	196769	57.2424	2.5900e-003	5.4000e-004	57.4667
Total		**57.2424**	**2.5900e-003**	**5.4000e-004**	**57.4667**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1866	3.6000e-003	0.3122	2.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5217
Unmitigated	0.1866	3.6000e-003	0.3122	2.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5217

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	0.0131					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4300e-003	3.6000e-003	0.3122	2.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5217
Total	**0.1866**	**3.6000e-003**	**0.3122**	**2.0000e-005**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**0.5094**	**0.5094**	**4.9000e-004**	**0.0000**	**0.5217**

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	0.0131					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4300e-003	3.6000e-003	0.3122	2.0000e-005		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5217
Total	**0.1866**	**3.6000e-003**	**0.3122**	**2.0000e-005**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**0.5094**	**0.5094**	**4.9000e-004**	**0.0000**	**0.5217**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.5458	0.0716	1.7300e-003	7.8501
Unmitigated	6.9322	0.0894	2.1600e-003	9.8126

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Retirement Community	2.73647 / 1.72517	6.9322	0.0894	2.1600e-003	9.8126
Total		**6.9322**	**0.0894**	**2.1600e-003**	**9.8126**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Retirement Community	2.18918 / 1.38013	5.5458	0.0716	1.7300e-003	7.8501
Total		**5.5458**	**0.0716**	**1.7300e-003**	**7.8501**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.9805	0.0579	0.0000	2.4290
Unmitigated	3.9218	0.2318	0.0000	9.7161

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	19.32	3.9218	0.2318	0.0000	9.7161
Total		**3.9218**	**0.2318**	**0.0000**	**9.7161**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	4.83	0.9805	0.0579	0.0000	2.4290
Total		**0.9805**	**0.0579**	**0.0000**	**2.4290**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-40.9200	0.0000	0.0000	-40.9200

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	18.8 / 12.2	-40.9200	0.0000	0.0000	-40.9200
Total		**-40.9200**	**0.0000**	**0.0000**	**-40.9200**

APPENDIX B
BIOLOGICAL EVALUATION

MEMORANDUM

Date: May 31, 2019

From: Charlie Simpson, Principal, BaseCamp Environmental, Inc.

To: File 2953, Elderberry Residential Project

Subject: Update of Moore Biological Consultants Biological Assessment of the North Stockton Projects (NSP) Phase III as it pertains to the Elderberry project site, a portion of NSP III.

I performed an on-site survey of the Elderberry project site for the purpose of updating and validating the results of a biological assessment of the NSP III site prepared by Moore Biological Consultants and documented in its report of October 20, 2004. The purpose of the survey was to identify the existence of any wetlands and suitable habitat for, or presence of, sensitive plant and animal species.

The survey was conducted on May 31, 2019 by Charles Simpson, Principal of BaseCamp Environmental, Inc. I am an environmental planner with considerable biological education and experience, which has been gained during my 43-year professional practice. The survey consisted of walking four evenly-spaced representative north-south transects of the site while observing current land use, general habitat types, and plant and wildlife species habitats reported by MBC in 2004. The survey included a search for potentially jurisdictional Waters of the U.S. In all, the survey found site conditions to be consistent with those reported in the MBC report. More specifically, the survey found:

Land uses on and in the vicinity of the site have not changed substantially since 2004.

Vegetation on the site consists of various native and non-native annual grass and weed species, including species identified by MBC.

Wildlife observations during the survey were few and consisted of bird species common to urbanized areas.

No trees or potential raptor nest trees were observed on or in the immediate vicinity of the project site.

No elderberry shrubs were observed on or adjacent to the site.

No evidence of concentrated wildlife use was observed.

No Waters of the U.S. or wetlands were observed on or adjacent to the site. The nearest Water addressed by MBC is located north of the project site adjacent to Eight Mile Road. No habitat for special-status aquatic species such as giant garter snake or western pond turtle exists on or adjacent to the site.

MBC found habitat suitability for sensitive plant and wildlife species to be relatively low; conditions at the project site today are consistent with this characterization.

MBC noted that the site may provide foraging and nesting habitat for burrowing owl; ground squirrel activity was reported in a few areas, but no burrowing owl activity was observed. No ground squirrel activity or potential for burrowing owl nesting was observed during this survey.

As MBC noted, site use by Swainson's hawk, burrowing owl or other special-status species cannot be entirely precluded. However, these and other potentially-occurring species are covered in the San Joaquin County Multi-Species Open Space and Habitat Conservation Plan. Required participation in the Plan, which consists of habitat fee payment and compliance with Incidental Take Minimization Measures will reduce any potential impacts of the project to a less than significant level.

MOORE BIOLOGICAL CONSULTANTS

October 20, 2004

Mr. Charlie Simpson
Insite Environmental
6653 Embarcadero Dr., Ste. Q
Stockton, CA 95219

Subject: BASELINE BIOLOGICAL RESOURCES ASSESSMENT AT THE NORTH STOCKTON PROJECTS - PHASE 3, STOCKTON, CALIFORNIA

Dear Charlie:

Thank you for contracting with Moore Biological Consultants to conduct a baseline biological resources assessment of the subject property (Figures 1 and 2). The focus of our work was to conduct a site evaluation for wetlands and suitable habitat for or presence of sensitive species. This letter report details the methodology and results of our investigation.

Methods

Prior to the field surveys, we conducted an updated search of California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB, 2004). This information was used to identify wildlife and plant species that have been previously documented in the project vicinity or have the potential to occur based on suitable habitat and geographical distribution. As the project site is located in the central portion of the USGS 7.5-minute Lodi South topographic quadrangle, the CNDDB search was conducted on just this quadrangle, which is an area encompassing approximately 70 square miles around the site.

The field surveys were conducted on August 26, 2004 and September 1, 2004. The surveys consisted of driving and walking throughout the site making observations of current habitat conditions and noting surrounding land use, general habitat types, and plant and wildlife species. We conducted a search for jurisdictional Waters of the U.S.

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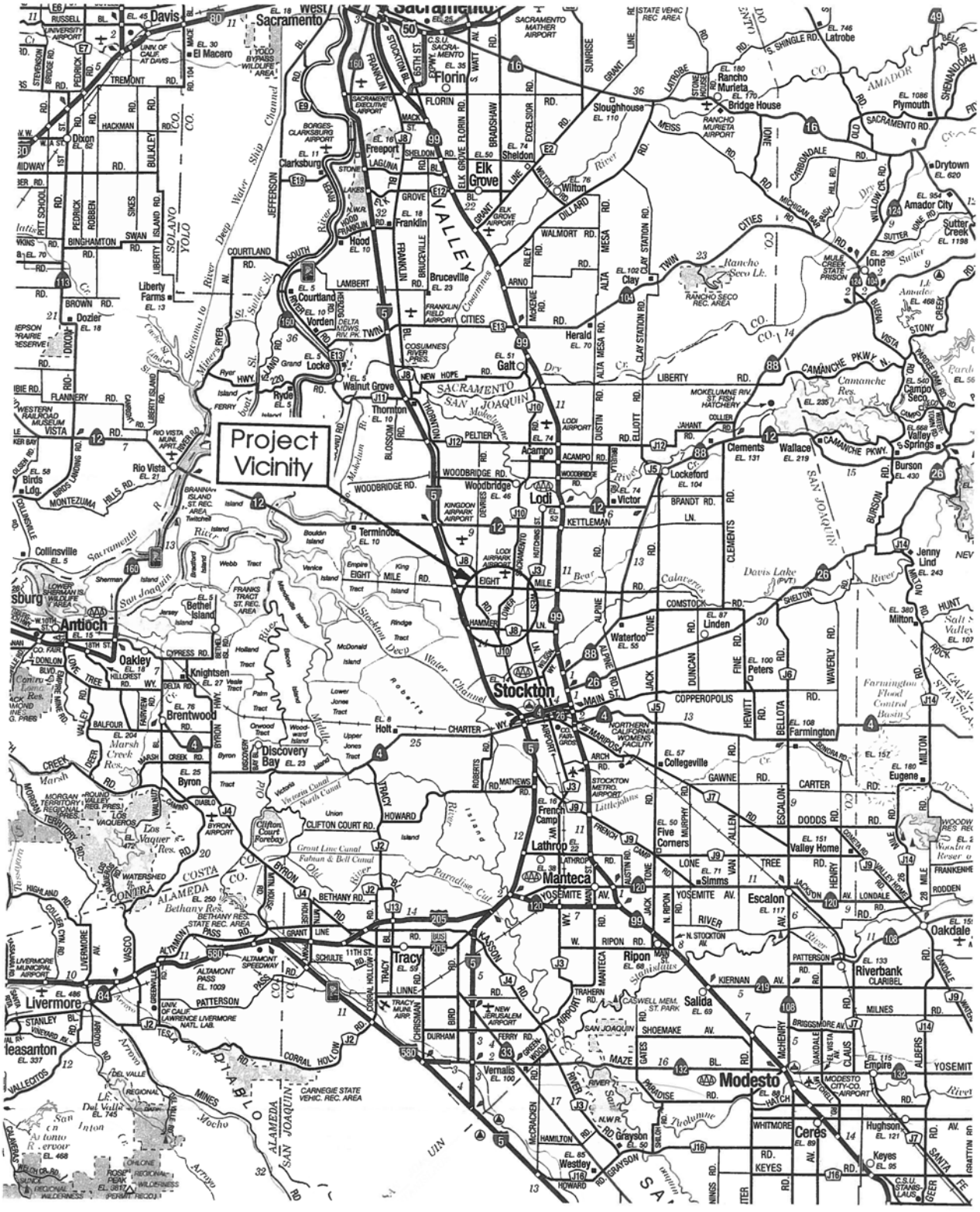

Scale: 1 inch = 9 miles

Source: Calif. State Automobile Association

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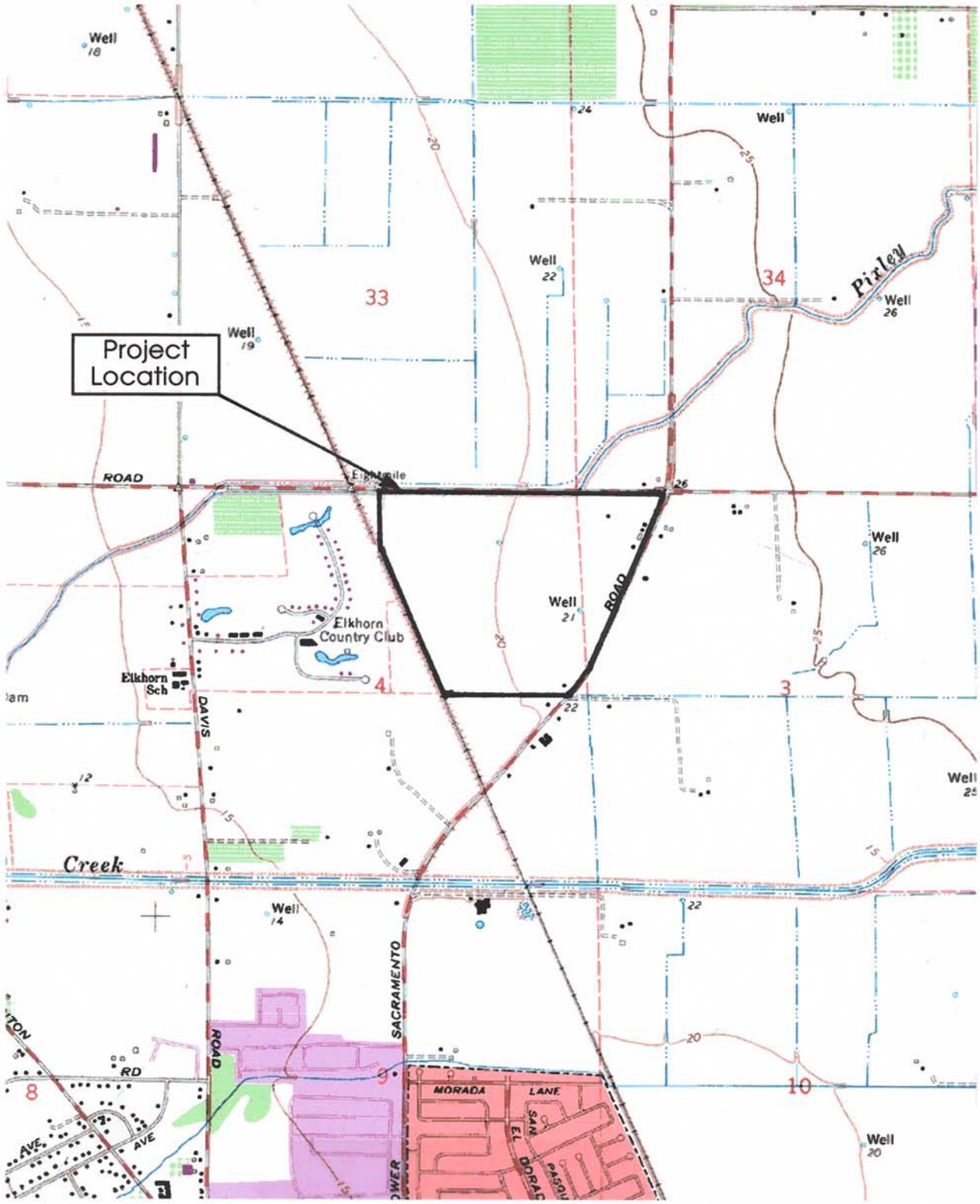
FIGURE 1
PROJECT VICINITY



Scale: 1 inch = 2,000 feet

Source: USGS 7.5-minute Lodi South topographic quadrangle

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FIGURE 2
PROJECT LOCATION

(a term that includes wetlands) as defined by the U.S. Army Corps of Engineers (ACOE, 1987), sensitive species, and suitable habitat for sensitive species (e.g., elderberry shrubs and potential nest trees for Swainson's hawk).

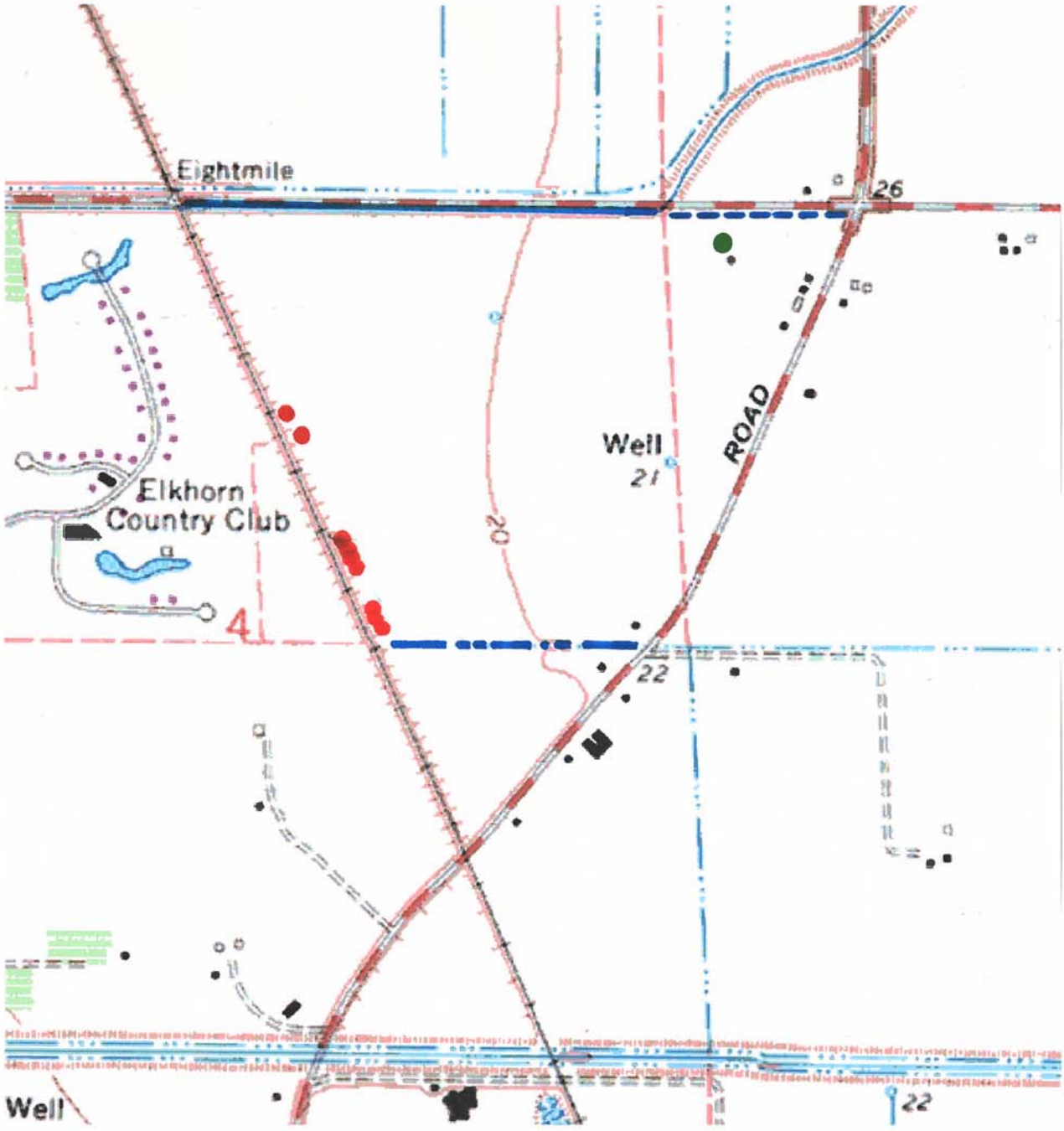
Results

GENERAL SETTING: The project site is located north of the City of Stockton, California (Figures 1 and 2). The site is within Sections 3 and 4, Township 2 North, Range 6 East of the USGS 7.5-minute Lodi South topographic quadrangle (Figure 2). Surrounding land uses in this rapidly urbanizing portion of San Joaquin County is primarily agricultural. The project site consists of a few ranchettes, annual cropland, a portion of Pixley Slough, a network of irrigation ditches, and roadside ditches (Figure 3).

The large levee along the south bank of Pixley Slough is located along most of the northern boundary of the site (Figure 3). There is a large roadside ditch along the south edge of Eight Mile Road, east of where Pixley Slough leaves the property and crosses under Eight Mile Road. Eight Mile Road, vineyards, and annual cropland are located to the north of the site. The Western Pacific Railroad, subdivisions, and a landscape nursery are located to the west of the site. Lower Sacramento Road, a dairy, and annual cropland are located to the east of the site. There is a large ditch that is shown as an intermittent "blue-line" stream on the topographic map (Figure 3) along the southern boundary of the site; there is a fallow field to the south of this ditch.

VEGETATION: The project site primarily consists of fields that have been leveled and planted to annual crops such as tomato (*Lycopersicon esculentum*) and small grain. There are also a few annual pasture fields associated with the residences. The vegetation along the edges of the fields, irrigation ditches, road shoulders, and annual pastures consists of various native and non-native annual grass and weed species. These species include but are not limited to field mustard (*Brassica rapa*), common mallow (*Malva neglecta*), Bermuda grass (*Cynodon dactylon*), ryegrass (*Lolium perenne*), oat (*Avena* sp.), and foxtail barley (*Hordeum murinum*). Plant species documented at the project site are listed in Table 1.

The majority of the trees at the project site are associated with the residences, Pixley Slough, and the road edges. Tree species within the site include valley oaks (*Quercus*



= Potential Waters of the U.S.
= Elderberry Shrub
= Raptor Stick Nest

Scale: 1 inch = 1,000 feet
Source: USGS 7.5-minute Lodi South topographic quadrangle

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FIGURE 3
NOTABLE BIOLOGICAL RESOURCES

TABLE 1

PLANT SPECIES OBSERVED DURING THE 2004 SURVEYS

Amaranthus albus	pigweed
Asclepias fascicularis	narrow-leaf milkweed
Avena sp.	oat
Brassica nigra	black mustard
Brassica rapa	field mustard
Bromus diandrus	ripgut brome
Centaurea solstitialis	yellow star-thistle
Cichorium intylous	chicory
Cirsium vulgare	bull thistle
Convolvulus arvensis	morning glory
Conyza canadensis	marestail
Cynodon dactylon	Bermuda grass
Cyperus eragrostis	umbrella sedge
Dactylis glomerata	orchard grass
Echinochloa crus-galli	barnyardgrass
Eremocarpus setigerus	doveweed
Erodium botrys	filaree
Eucalyptus sp.	euclyptus
Hordeum murinum	foxtail barley
Juglans californicus	black walnut
Juglans regia	English walnut
Lactuca serriola	prickly lettuce
Leymus triticoides	creeping wildrye
Lolium perenne	perennial ryegrass
Ludwigia peploides	water primrose
Malva neglecta	common mallow
Mentha pulegium	pennyroyal
Morus alba	mulberry
Pinus sp.	pine
Platanus sp.	sycamore
Polygonum lapathifolium	willow weed
Polygonum sp.	water smartweed
Polypogon monspeliensis	annual beardgrass
Populus sp.	cottonwood
Prunus dulcis	almond

TABLE 1 (Continued)

PLANT SPECIES OBSERVED DURING THE 2004 SURVEYS

Quercus lobata	valley oak
Robinia pseudoacacia	black locust
Rubus discolor	Himalayan blackberry
Rumex crispus	curly dock
Rumex pulcher	fiddle dock
Salix sp.	willow species
Salsola tragus	tumbleweed
Sambucus mexicana	blue elderberry
Scirpus acutus	tule
Sida hederacea	alkali mallow
Silybum marianum	milk thistle
Sonchus asper	prickly sow-thistle
Sorghum halepense	Johnsongrass
Tribulus terrestris	puncturevine
Typha angustifolia	cattail
Ulmus sp.	elm
Verbena hastata	common verbena
Xanthium strumarium	cocklebur

lobata), willows (*Salix* sp.), pines (*Pinus* sp.), and almonds (*Prunus* sp.). There are also several large trees in neighboring parcels and along the fence lines located off site.

There are several large blue elderberry (*Sambucus mexicana*) shrubs within or immediately adjacent to the project site (Figure 3). All of these elderberry shrubs are along the western boundary of the site; some are clearly within the Western Pacific Railroad right-of-way and are likely just off-site. The property line would need to be staked to confirm which shrubs are on-site and which are just off-site.

Vegetation along the fringes of Pixley Slough and the east-west ditch to the east of Pixley Slough along Eightmile Road consists of annual beardgrass (*Polypogon monspeliensis*), barnyardgrass (*Echinochloa crus-galli*), water primrose (*Ludwigia peploides*), creeping wildrye (*Leymus triticoides*), cattail (*Typha* sp.), willow (*Salix* sp.), and valley oak (*Quercus lobata*).

WILDLIFE: A limited number of wildlife species were observed during the recent surveys. Some of the more common birds observed include red-tailed hawk (*Buteo jamaicensis*), yellow-billed magpie (*Pica nuttalli*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), and house sparrow (*Passer domesticus*). All of these are species commonly found in rural areas in the greater project vicinity (Table 2).

There are several potential nest trees within the project site that are suitable for nesting raptors and other protected migratory birds, including Swainson's hawk. There is a large stick nest in a dead snag associated with one of the on-site residences (Figure 3). No raptors were observed with this nest, but this should be expected in the fall when most Swainson's hawks have started the return trip to their winter grounds in Mexico. There are also several other trees with stick nests in them within other parcels in the greater project vicinity. Given the size of the site, the presence of foraging habitat (large open fields), and large trees within the site, it is considered likely one or more pairs of raptors, plus a variety of songbirds, utilize trees within the site each year for nesting.

A limited variety of mammals common to agricultural and semi-rural areas occur in the project site. Desert cottontail (*Sylvilagus audubonii*), raccoon (*Procyon lotor*), and ground squirrels (*Spermophilus beecheyi*) were observed while at the site. Striped skunk (*Mephitis mephitis*) and opossum (*Didelphis virginiana*) are expected to occur at the site. A number of species of small rodents including mice (*Mus musculus, Reithrodontomys megalotis,* and *Peromyscus maniculatus*) and voles (*Microtus californicus*) also are likely to occur.

Based on habitat types present, a limited number of amphibians and reptiles may use habitats at the project site. The only reptile observed at the project site during the recent survey, was the western fence lizard (*Sceloporus occidentalis*).

WATERS OF THE U.S AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, their tributaries, and adjacent wetlands. State and federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into any waters of the U.S., including wetlands. Both CDFG and ACOE have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

TABLE 2

WILDLIFE SPECIES OBSERVED DURING THE 2004 SURVEYS

Birds	
Great egret	*Casmerodias albus*
Red-tailed hawk	*Buteo jamaicensis*
Killdeer	*Charadrius vociferus*
Mourning dove	*Zenaida macroura*
Western scrub jay	*Aphelocoma coerulescens*
Yellow-billed magpie	*Pica nuttalli*
American crow	*Corvus brachyrhynchos*
American robin	*Turdus migratorius*
Northern mockingbird	*Mimus polyglottos*
Song sparrow	*Melospiza melodia*
Mammals	
Raccoon	*Procyon lotor*
California ground squirrel	*Spermophilus beecheyi*
Desert cottontail	*Sylvilagus audubonii*
Reptiles	
Western fence lizard	*Sceloporus occidentalis*

The ACOE has recently asserted jurisdiction over irrigation ditches in situations where water flows out of jurisdictional Waters of the U.S. via gravity, is conveyed in the ditches, and has an opportunity to return to jurisdictional Waters of the U.S. Created wetlands that are adjacent to or "neighboring" jurisdictional Waters of the U.S. may also be considered jurisdictional by ACOE. As ACOE holds the authority to determine jurisdiction or non-jurisdiction, a formal wetland delineation, based on current regulations of ACOE, would need to be conducted to firmly establish the extent of jurisdictional Waters of the U.S., including wetlands, on the project site.

There are a few potential waters of the U.S., including wetlands, located throughout the project site that may fall under the jurisdiction of ACOE and CDFG. Pixley Slough, which runs along most of the northern site boundary is a Waters of the U.S., that is clearly under

the jurisdiction of both ACOE and CDFG. Vegetation along the fringes of Pixley Slough consists of annual beardgrass, barnyardgrass, water primrose, cattail, willows, and valley oak. The large levee along the south bank of Pixley Slough clearly separates the waters of the U.S. from the on-site agricultural fields and network of created irrigation ditches.

There is a large roadside ditch along the south edge of Eight Mile Road, east of where Pixley Slough leaves the property and crosses north under Eight Mile Road. There is also a large ditch that is shown as an intermittent "blue-line" stream on the topographic map (Figure 3) along the southern boundary of the site. While both these ditches are clearly created, they could potentially be considered jurisdictional by ACOE due to geographic proximity and/or hydrological connectivity with other waters of the U.S. However, CDFG would likely not take jurisdiction over these non-natural waterways.

Finally, there are a few well-developed agricultural ditches and irrigation canals located within the main body of the site. Most of these agricultural ditches terminate on the site and are entirely created and hydrologically manipulated. As we believe these agricultural ditches have little potential to fall under ACOE jurisdiction, they are not mapped in Figure 3.

SENSITIVE SPECIES: Based on the ongoing level of disturbance from past and ongoing farming practices, the likelihood of occurrence of listed, candidate, and other sensitive species in the project site is considered to be generally low. Table 3 provides a summary of the listing status and habitat requirements of sensitive species, which have been documented in the CNDDB in the greater project vicinity or for which there is potentially suitable habitat in the greater project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species within the project site. A few sensitive species of regional concern with the greatest potential of occurrence or for which there is potential habitat at the site are further discussed in detail below.

SENSITIVE PLANTS: No sensitive plants were observed during the recent surveys. Sensitive plants found within the greater project vicinity generally occur in relatively undisturbed areas and are largely found in vegetation communities not present within the project site. Rare plants that occur within the greater project vicinity are found in habitats such as marshes, swamps, and riparian scrub, which are not found in or adjacent to the

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence within Project Site
PLANTS						
Mason's lilaeopsis	*Lilaeopsis masonii*	None	R	1B	Freshwater and brackish marshes, riparian scrub.	Very low: Pixley Slough and the various roadside ditches and irrigation ditches on th site do not provide suitable habitat for this species. The nearest occurrence of this species is located in the delta, approximately 5 miles southwest of the site (CNDDB, 2004).
WILDLIFE						
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Nesting: large trees, usually within riparian corridors. Foraging: agricultural fields and annual grasslands.	Moderate: the site provides grasslands and/or annual cropland that Swainson's hawks use for foraging, and there are suitable nest trees both onsite as well as in the project vicinity of the site. The nearest documented occurrences of nesting Swainson's hawks in the CNDDB (2004) are two pairs just east of the site across Lower Sacramento Road.
Burrowing owl	*Athene cunicularia*	None	SC	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Low: the site contains suitable burrowing habitat, but no burrowing owls or evidence of past owl occupancy were found at the site. The CNDDB (2004) does not have this species documented in the Lodi South topographic quadrangle.
Western pond turtle	*Emys marmorata*	SC	SC	N/A	Freshwater marsh and low gradient streams with adequate basking sites such as logs or snags.	Low: Pixley Slough provides marginal habitat for this species. The CNDDB (2004) does not have this species documented in the Lodi South topographic quadrangle.

TABLE 3

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence within Project Site
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs, usually in Central Valley riparian habitats.	Low: there are several blue elderberry shrubs located within the project site; a few contain possible evidence of past VELB occupancy. However, this species has not been documented in the Lodi South topographic quadrangle (CNDDB, 2004).
Giant garter snake	*Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	Low: Pixley Slough provides marginal habitat for giant garter snake. This species has not been observed in the project vicinity for several decades; the nearest documented sighting of this species is a 1976 observation at Eight Mile Road and the Western Pacific Rail Road tracks. This is within the northwest corner of the site (CNDDB, 2004).

1 T = Threatened; SC= Species of Concern.

2 T = Threatened; R = Rare; SC= State of California Species of Special Concern.

3 CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere.

project site. Mason's lilaeopsis (*Lilaeopsis masonii*) is the only sensitive plant species reported in the CNDDB (2004) in the search area (i.e., the Lodi South topographic quadrangle). Pixley slough and some of the on-site irrigation canals and ditches provide very low quality habitat for Mason's lilaeopsis, which is mostly known from delta habitats several miles west of the site.

SENSITIVE WILDLIFE: The potential for intensive use of habitats within the project site by sensitive wildlife species is generally considered low. Sensitive wildlife species that have been recorded in greater project vicinity in the CNDDB (2004) include Swainson's hawk, burrowing owl (*Athene cunicularia*), and giant garter snake (*Thamnophis gigas*). Western pond turtle (*Emys marmorata*) was added to Table 3 due to the presence of marginally suitable habitat within the site. Swainson's hawk and burrowing owl have at least a low potential to occur within the project site on more than a transitory or very occasional basis. These species could be adversely affected by site construction if they nested on or near the project site during construction and are discussed further below. Giant garter snake, western pond turtle, and sensitive fish are also discussed below due to the presence of Pixley Slough within the project site.

SWAINSON'S HAWK: Swainson's hawk is listed as Threatened by CDFG and is a Federal Species of Special Concern. In the Central Valley, this hawk typically nests in oak or cottonwood trees in or near riparian habitats. Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, alfalfa, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. The raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

The CNDDB (2004) contains several records of nesting Swainson's hawk in the greater project vicinity, and the project site provides suitable foraging habitat for this species. The nearest occurrence of a nesting pair reported in the CNDDB, is located east of the site across lower Sacramento Road. There are a few suitable nest trees within the project site and the adjacent parcels surrounding the site also contain suitable nest trees.

BURROWING OWL: The burrowing owl is a State of California Species of Concern and is protected by the federal Migratory Bird Treaty Act. Burrowing owls are a year-long resident in a variety of grasslands as well as scrublands that have a low density of trees and shrubs with low growing vegetation; burrowing owls which nest in the Central Valley may winter elsewhere. The primary habitat association of the burrowing owl is burrows for nesting. The owl usually nests in old ground squirrel burrows, although they have been known to dig their own burrows in softer soils. In urban areas, burrowing owls often utilize artificial burrows including pipes, culverts, and piles of concrete pieces. This semi-colonial owl breeds from March through August, and is most active while hunting during dawn and dusk. Burrowing owls could be adversely affected by on-site construction if they nest in burrows within the site or in off-site burrows near the site.

There are a few ground squirrels and ground squirrel burrows observed in the fallow field, along the irrigation ditches, farm roads, and levy during the recent survey. There was no burrowing owl sign (i.e., whitewash, pellets, feathers) observed within any of the burrows. Despite these negative findings, there has been an occurrence of burrowing owl recorded about one mile south of the site. Consequently, the future use of burrows within the site by nesting burrowing owls cannot be precluded with certainty.

VALLEY ELDERBERRY LONGHORN BEETLE: The valley elderberry longhorn beetle (VELB) is a Federally threatened species and it's host plant is the elderberry shrub. The United States Fish and Wildlife Service's (USFWS, 1999) *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* identifies stems in excess of 1 inch diameter at ground level as potential habitat for the beetle. These guidelines direct that, if possible, elderberry shrubs should be avoided by a ground disturbance set back of at least twenty feet from the drip line of each shrub.

There are several blue elderberry shrubs located within the project site (Figure 3). Some of the shrubs contain weathered bore holes (i.e., "exit holes"), which may be suggestive of past occupancy by VELB (Figure 3). However, as none of the holes were freshly cut, a definitive conclusion on their origin can not be made. As discussed above, all of these elderberry shrubs are along the western boundary of the site; some are clearly within the Western Pacific Railroad right-of-way and are likely just off-site.

GIANT GARTER SNAKE: The giant garter snake is both State and Federally listed as a Threatened species. This species is associated with freshwater marshes and low gradient streams and has adapted to drainage canals and irrigation ditches within the Central Valley. Pixley Slough contains potential habitat for giant garter snake due to the presence of emergent wetland vegetation (i.e., cattail and tule) and being subject to year-round inundation, both of which are constituent habitat elements of giant garter snake.

There was an observation of giant garter snake in 1976 within Pixley Slough (CNDDB, 2004). This occurrence was recorded adjacent to the sight the site along Eight Mile Road and the Western Pacific Railroad tracks. However, when follow-up surveys were conducted by CDFG at this location over a three-day period in 1995, no giant garter snakes were observed and the habitat was rated only as "fair" at the site (Hansen, 1995). Within the search area, the CNDDB contains no other occurrences of giant garter snake. While habitats within Pixley Slough and the on-site irrigation ditches are marginally suitable for giant garter snake, the likelihood of occurrence of this species in the project site is considered very low to none, as it has not been documented in the greater project vicinity in the recent past.

WESTERN POND TURTLE: Western pond turtle is considered a Species of Concern by the U.S. Fish and Wildlife Service (USFWS) and CDFG. This species is found in association with perennial aquatic habitats or in permanent pools in intermittent streams in a variety of habitat types. The CNDDB (2004) does not contain any records of western pond turtle within the Lodi South topographic quadrangle, but there is one in the Terminous topographic quadrangle, approximately 5 miles northwest of the site. While Pixley Slough provides marginally suitable habitat for western pond turtle, none were observed during the recent survey.

SENSITIVE FISH: A number of sensitive fish species occur in Delta waterways during various times of the year. These include delta smelt (*Hypomesus transpacificus*), fall/late-fall run, spring-run and winter-run chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*O. mykiss*), green sturgeon (*Acipenser medirostris*), river lamprey (*Lampetra ayersi*), Pacific lamprey (*L. tridentata*), and longfin smelt (*Spirinchus thaleichthys*). It is considered likely that some of these sensitive fish utilize the lower reaches of Pixley Slough, at least on a seasonal basis. However, sensitive fish would not be expected to

occur in the on-site portion of Pixley Slough on more than a very occasional basis, if at all, due to lack of suitable spawning and rearing habitat.

Conclusions and Recommendations

- Pixley Slough is a Waters of the U.S., under the jurisdiction of both ACOE and CDFG.

- A few irrigation ditches and canals within the site are potential waters of the U.S. that could fall under jurisdiction of ACOE. Others are believed to be non-jurisdictional because they terminate on the site and are entirely created and hydrologically manipulated. A formal wetland delineation would need to be conducted and submitted to the Corps of Engineers for verification in order to determine jurisdiction of on-site waterways with certainty.

- Jurisdictional waters of the U.S. should be avoided to the maximum extent practicable through thoughtful project design. If fill (i.e. utility lines, structures, culverts, road crossings, outfall structures, etc.) is to be placed within jurisdictional waters of the U.S., including wetlands, wetland permits and/or certification may be required from ACOE, CDFG, and Regional Water Quality Control Board.

- Development of the project site will result in a loss of Swainson's hawk foraging habitat, and will contribute to a cumulative loss of Open Space and associated biological resource values. Mitigation for the loss Open would be best accomplished through participation in the San Joaquin County Multi-species Habitat Conservation Plan (HCP).

- If the project participates in the HCP, standard Take Avoidance measures outlined in the HCP for nesting Swainson's hawks and burrowing owl should be undertaken. Otherwise, pre-construction surveys for nesting Swainson's hawks within 0.25 miles of the project site and burrowing owls within 250 feet of the site should be conducted for construction activities between March 1 and September 15 (for hawks) and February 1 through August 31 (for owls). If active nests are found, a qualified biologist should determine the need (if any) for

- On-site elderberry shrubs provide potential suitable habitat for the federally threatened Valley elderberry longhorn beetle. The United States Fish and Wildlife Service (USFWS, 1999) *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* identifies stems in excess of 1 inch diameter at ground level as potential habitat for the beetle. These guidelines direct that, if possible, elderberry shrubs should be avoided and a development set back at least twenty feet from the drip line of each shrub. The shrubs mapped on the site, as well as any other shrubs that may be present, should be avoided in order to avoid potential impacts to this species. If avoidance is infeasible, participation in the HCP would be the best mitigation option to secure approval to remove the shrubs.

- On-site trees could be used by nesting raptors and other protected birds. Any trees that need to be removed to facilitate with future development should be felled outside of the general bird nesting season (February 1 through August 31) or a nesting bird survey should be conducted immediately prior to tree removal. If active nests are found, tree felling should be delayed until the young have fledge.

- We observed no other outstanding wetlands, sensitive species, or biological issues of concern within the project site.

Thank you, again, for asking Moore Biological Consultants to assist with the project. Please feel free to call me at (209) 365-6828 with any questions.

Sincerely,

Diane S. Moore, M.S.
Principal Biologist

References and Literature Consulted

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CDFG (California Department of Fish and Game). 1994. Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. November.

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APPENDIX C
GEOTECHNICAL REPORT

March 16, 2018

LeBaron Development
4719 Quail Lakes Dr. Suite G #241
Stockton, CA 95207

Attn: Wayne LeBaron
P: 209-951-7008
E: wayne@lebarondevelopment.com

Re: **Seismic Update Letter**
LeBaron Subdivision
10789 Lower Sacramento Road
Stockton, California
Terracon Project Number: NA185021

Dear Mr. LeBaron,

This letter presents an update to the geotechnical engineering report prepared by Neil O. Anderson and Associates, now Terracon, for this project, our project number LG04-224 dated July 28, 2004. Neil O. Anderson and Associates was acquired by Terracon in 2014. Specifically, this letter is to update the seismic design parameters to the 2016 California Building Code (CBC) and review recommendations contained in the original report. The original report contained parameters for the 2001 CBC.

The following table presents the seismic design values and site class as calculated from the USGS U.S. Seismic Design Maps website utilizing ASCE 7-10.

DESCRIPTION	VALUE
2016 California Building Code Site Classification (CBC) [1]	D
Site Latitude	38.0531°
Site Longitude	-121.3137°
S_s Spectral Acceleration for a Short Period	0.837g
S_1 Spectral Acceleration for a 1-Second Period	0.320g
F_a Site Coefficient for a Short Period	1.165
F_v Site Coefficient for a 1-Second Period	1.759
S_{Ms} Maximum Considered Spectral Response Acceleration for a Short Period	0.976g
S_{M1} Maximum Considered Spectral Response Acceleration for a 1-Second Period	0.564g
S_{Ds} Design Spectral Response Acceleration for a Short Period	0.650g

DESCRIPTION	VALUE
S_{D1} Design Spectral Response Acceleration for a 1-Second Period	0.376g
PGA_M	0.356g

[1] Note: The 2016 California Building Code (CBC) requires a site soil profile determination extending to a depth of 100 feet for seismic site classification. The current scope does not include the required 100-foot soil profile determination. The borings from the 2004 study extended to a maximum depth of 15½ feet, and this seismic site class definition considers that similar soils continue below the maximum depth of the subsurface exploration. Additional exploration to greater depths could be considered to confirm the conditions below the current depth of exploration. Alternatively, a geophysical exploration could be utilized in order to attempt to confirm the seismic site class.

A staff engineer from our office visited the site to observe if site conditions had changed since preparation of the original report. We observed that the site remains a vacant lot with the addition of Villa Point Drive that connects Lower Sacramento Road to the subdivision west of this site Therefore, in our opinion the recommendations contained in the original report dated July 28, 2004 are valid. The limitations indicated in that report are also still valid.

This update letter has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this letter, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Patrick C. Dell, Senior Associate
Geotechnical Engineer 2186
Geotechnical Department Manager

Christopher B. Congrave
EIT 157943
Staff Engineer

Enclosures
cc: 1 – Client (PDF)
1 – File

GEOTECHNICAL INVESTIGATION

Elderberry

LeBARON SUBDIVISION

10789 LOWER SACRAMENTO ROAD

STOCKTON, CALIFORNIA

REPORT PREPARED FOR:

Wayne LeBaron, LeBaron Development

OUR JOB NUMBER: LG04-224

July 28, 2004

NEIL O. ANDERSON
AND ASSOCIATES

GEOTECHNICAL
ENVIRONMENTAL
INSPECTIONS & TESTING
LABORATORY SERVICES
POOL ENGINEERING
POST TENSION DESIGN

July 28, 2004
Our Job Number: LG04-224

Mr. Wayne LeBaron
LeBaron Development
2087 Grand Canal Boulevard, Suite 5
Stockton, California

Subject: **GEOTECHNICAL INVESTIGATION**
LeBARON SUBDIVISION
10789 LOWER SACRAMENTO ROAD
STOCKTON, CALIFORNIA

Dear Mr. LeBaron:

The following report presents the findings and conclusions of our geotechnical investigation conducted at the subject site. The purpose of the report was to provide recommendations for foundations and grading, as indicated in our proposal dated June 9, 2004.

From a soil engineering standpoint, our office concludes that the site is suitable for construction of the proposed subdivision; however, all of the conclusions and recommendations presented in this report should be incorporated in the design and construction to avoid soil and foundation problems. The main item for concern is the expansive nature of the surface sandy clay found in some of our borings. Coordination between our office and your contractor will help to ensure that potential soil hazards are identified and mitigated.

Key information regarding this geotechnical report is presented on the following page. This information sheet has been provided to aid you in assessing the limitations of this geotechnical investigation as well as to indicate when additional information from our office may be required.

We appreciate the opportunity of working with you on this project and look forward to providing our services in the future. Please contact us if you have any questions.

Sincerely,
NEIL O. ANDERSON & ASSOC., INC.

Troy M. Schiess, Staff Engineer
E.I.T., B.Sc.

REGISTERED PROFESSIONAL ENGINEER
GARRET S. H. HUBBART
No. 2588
Exp. 6-30-07
GEOTECHNICAL
STATE OF CALIFORNIA

Garret S.H. Hubbart, General Manager
Geotechnical Engr. 2588, M.Sc.

KEY INFORMATION REGARDING YOUR GEOTECHNICAL REPORT

- *The Applicability of Geotechnical Reports Is Limited*

Geotechnical reports are written to provide test results, observations, and professional opinions regarding a specific site for a specific project. Reports are tailored to the client and are influenced by each client's risk management strategies, economical constraints, and personal preferences. Since each report is a "custom fit" for a particular client, reports should not be transferred to anyone else without first consulting the geotechnical engineer.

Each geotechnical report considers only the construction information and site boundaries that existed at the time of the investigation. Modification of construction plans, such as a change in the shape, size, weight, location, or intended use of a project, nullifies the recommendations contained in the report, unless the geotechnical engineer indicates otherwise. A geotechnical report can not be used for an adjacent site. Time and money can often be saved by consulting with the geotechnical engineer when any circumstances change from those which existed when the report was written.

- *Site Conditions Can Change*

The conditions which existed at the time of a geotechnical investigation can change. Investigations can only report conditions at a particular time and place and no guarantee exists to ensure that recommendations will apply after natural or man made changes occur. Examples of some possible changes include: earthquakes, floods, fluctuations in groundwater, construction on *o r next* to the site, and the addition or removal of soil. In addition, even the mere passing of time can affect site conditions. Consult with the geotechnical engineer to verify site conditions have not changed since the geotechnical report was completed.

- *Geotechnical Findings Are Comprised Primarily of Profession Opinions*

Even if typical 6 inch borings were spaced 5 feet apart across an entire site (typical borehole spacings are on the order of at least 10's or 100's of feet apart), *less than one percent* of the soil or rock on the site would actually be explored. From this limited exploration, the geotechnical engineer is called on to provide an opinion regarding the subsurface conditions across the site, provide appropriate foundation recommendations, and predict the response of subsurface materials to numerous scenarios using information from samples that may or may not be representative of the entire site. Obviously, most of the geotechnical report is based on the professional opinion of the geotechnical engineer. The actual subsurface conditions may significantly differ from those which were encountered during the geotechnical investigation. Consequently, the most effective method of managing the risks associated with a project is to retain the geotechnical engineer who provided the report throughout construction of the project.

- *Contact Your Geotechnical Engineer When In Doubt*

Time, money, and confusion can all be saved by simple explanations at critical moments. Please contact your geotechnical engineer whenever there is any doubt regarding subsurface conditions or their effect on part or all of any project.

GEOTECHNICAL INVESTIGATION
LeBARON SUBDIVISION

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July 28, 2004

GEOTECHNICAL INVESTIGATION

LeBARON SUBDIVISION

10789 LOWER SACRAMENTO ROAD

STOCKTON, CALIFORNIA

OUR JOB NUMBER: LG04-224

1.0 INTRODUCTION

This report presents the findings, conclusions, and recommendations of a geotechnical investigation conducted at 10789 Lower Sacramento Road, Stockton, California. The purpose of the investigation was to provide recommendations for foundations, bearing capacity, settlement, swell potential, grading, utility construction, and pavement sections. Our office understands the proposed project will consist of a combination of 'high density' and single family residential structures. Proposed construction will consist of one and/or two story wood frame residences supported by a conventional or post tension foundation. Foundation loads will be light. Grading will consist of relatively minor cuts and fills.

The geotechnical study conducted at this site was prepared for the use of the architect and engineer for application to the design of the building and grading plan in accordance with generally accepted geotechnical engineering practices. No warranty is expressed or implied. This report presents the results of this study.

2.0 GENERAL GEOLOGIC AND SITE CONDITIONS

The general geology of the area indicates the surface soils are of Pleistocene age, alluvial fan deposits derived from glaciated drainage basins of the Modest Formation.[1] The site is located in Seismic Zone 3[2] and all structures should be designed accordingly. The closest active Class B fault is the Great Valley blind thrust fault zone along parts of the western Sacramento/San Joaquin Valley. The UBC currently considers **non**-blind thrust faults for seismic design parameters. The next closest fault is the Class B Greenville strike slip fault located at a distance of 49 kilometers. The closest

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[1] Bartow, J.A., Lettis, W.R., Sonneman, H.S. Switzer, J.R. (1985), *Geologic Map of the East Flank of the Diablo Range from Hospital Creek to Poverty Flat, San Joaquin, Stanislaus, and Merced Counties* California Department of Mines and Geology.

[2] California Building Code, 2001 Edition, International Conference of Building Officials, Whittier, CA.

Class A fault is the Hayward strike slip fault located at a distance of 79 kilometers[3].

The California Division of Mines and Geology assigns a probabilistic (10% probability of exceeding that motion in a 50 year period) peak horizontal ground acceleration for surface soil at the subject site of 0.2 to 0.3g based on an interpretation of color patterns representing anticipated accelerations of the Stockton area plotted on a seismic hazard map of California[4]. A detailed analysis of earthquake induced liquefaction for the proposed site was outside the scope of our investigation; however, due to the density of soil, the low potential ground acceleration and depth to groundwater (approximately 40 feet)[5], the potential for seismically induced surface distress from liquefaction is considered low.

Following is a table of the 2001 California Building Code Soil Parameters[2] which may be used for design of structures at the subject site:

2001 CALIFORNIA BUILDING CODE SEISMIC DESIGN PARAMETERS	
Seismic Zone 3, Z	0.30
Soil Type, S	Sd
Seismic Source Type	B
Seismic Coefficient, Ca	0.36
Seismic Coefficient, Cv	0.54

The general topography of the site and surrounding area is relatively flat. The site is bordered to the east by Lower Sacramento Road and bordered on the north, south and west sides by open fields. At the time of our investigation, the site was a dry hay field which had recently been cut. A transformer tower is located at the center of the site near Lower Sacramento Road. For a general representation of the site and test hole locations, see the Location Map (Plate No. 1).

3.0 FIELD EXPLORATION AND LABORATORY TESTING

The field investigation conducted at this site consisted of drilling 6 exploratory test holes carried to depths of 10 to 15 feet. . The test holes were drilled with a Mobile B-53 drill rig, utilizing 6-inch continuous flight auger. The locations of the test holes are shown on the Location Map, Plate No. 1. The locations of the test holes were determined by pacing; hence, accuracy can be implied only to the degree that this method warrants.

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[3] Blake, T.F., 1998a, UBC Seismic Version 1.03.

[4] California Division of Mines and Geology, 1999, Seismic Shaking Hazard Maps of California, CDMG Seismic Shaking Hazard Map Sheet 48.

[5] Flood Control and Water Conservation District, Spring 1999, Groundwater Report, Lines of Equal Depth to Groundwater Spring 1999 Map.

Sampling of test holes was performed at various depths by a California Modified 2.5-inch o.d. split spoon sampler with stainless steel tube liners. The sampler was driven by a 140-pound hammer with a 30-inch drop. Blow counts required to drive the sampler every 6 inches were recorded and a summary of blows to drive the hammer the last 12 inches is presented on the Log of Boring sheets, Plates No. 2 through 7.

Soil samples obtained from the test holes were preserved in stainless steel tubes until the samples could be tested in the laboratory. Samples were taken to the laboratory of Neil O. Anderson & Associates, Inc., Lodi, California and used for performing various laboratory tests. Tests performed consisted of unit weights, moisture contents and Atterberg Limits.

A bulk sample of the subgrade soil in the proposed pavement area was obtained for performing an R-value test. This sample was obtained from the 12 to 18 inch depth. For the approximate locations of this sample, see the location map. The sample rendered a design R-value of 28.

4.0 SOIL CONDITIONS

Visual classification of each soil stratum encountered according to ASTM D2488 (Visual - Manual Procedure) was made in the field by a representative from our office at the time the test holes were drilled. The samples obtained were checked in the laboratory by an engineer and classification verified according to ASTM D2487. A classification and graphical representation of each soil encountered is presented on the Log of Boring sheets. The test boring legend is presented on Plate No. 8.

The soils encountered in the test holes were fairly uniform. In general, the surface 2 to 4 feet consisted of dense to very dense silty sand which was underlain by dense to very dense sand with varying amounts of silt which continued to the maximum depth explored of 15 feet. In borings B1 and B2, the surface soils consisted of a stiff to very stiff sandy lean clay. For a more detailed description of the soils encountered in the test holes see the Log of Boring sheets.

Test hole logs show subsurface conditions at the date and location indicated and it is not warranted that they are representative of subsurface conditions at other locations and times. No subsurface water was encountered in the test holes at the time they were drilled.

5.0 DESIGN STUDIES AND RECOMMENDATIONS

From a soil engineering standpoint, our office concludes that the site is suitable for construction of the proposed subdivision, however, all of the conclusions and recommendations presented in this report should be incorporated in the design and construction to avoid soil and foundation problems. The main item of concern is the expansive nature of the subsurface sandy clay found in borings B1and B2.

The native subsurface sandy clay and silty sand soil is stiff to very stiff and should provide adequate support for the proposed shallow foundations; however, the clay is slightly expansive and subject to volume changes with variations in moisture content. Foundations should extend below the point of seasonal moisture fluctuations and special measures should be taken to protect the slabs from the swelling pressures of the clay. Two options are being provided as a way to protect the residence slabs. Following is a summary of the options:

-Option 1 - Conventional Foundations with Footing Inspection. Excavate footings, determine if clays are present, then construct the conventional foundations. Cast continuous perimeter footings, presaturate subgrade and cast slab.

- Option 2 - Post Tensioned Foundations. Ensure the native subgrade is in a moist condition to a depth of 18 inches and cast a uniform thickened post tensioned foundation to structurally resist pressures from swelling clay soils.

The two options are presented in order to provide a latitude of methods in dealing with the expansive soils. **Option 1** would provide a stable foundation, but would have the potential of some movement due to some moisture variation in the subgrade. **Option 2** would provide a structural slab supported on native clays that could withstand the swelling pressures of these soils; and provides the advantage of no (or minimal) control joints and no excavations for footings. Post tensioned slabs on grade also remain relatively crack free. **If Option 2 is desired, our office can provide the necessary post tensioned design.** Our office is knowledgeable in the design and use of post tensioned foundations.

We would be pleased to further discuss the cost/benefit of each of the options. If the building pad is constructed and the foundation is loaded as indicated in the following recommendations, settlement should be limited to less then 1" total and ½" differential.

5.1 Option 1 - Conventional Foundations with Footing Inspection

Excavate footings, determine if clays are present, then construct the conventional foundations in one stage if clays are not present and two stages if clays are present. Cast continuous perimeter footings, presaturate subgrade and cast slab.

5.1.1 Building Pad Preparation

The building pads should initially be cleared of all vegetation, and deleterious debris as outlined in Appendix A. Voids resulting from the removal of any buried structures or old foundations should be cleaned of all loose soil and debris so that they may be backfilled during filling operations. After clearing operations and any cuts have been made, the exposed subgrade should be scarified a minimum of 8 inches and recompacted as indicated in Appendix A with special attention given to the following section when grading operations result in the presence of the surficial sandy clay soils:

All scarified and recompacted on-site **clay soil** within the top 18 inches of finished pad grade shall be placed and compacted between **88 and 92 percent relative compaction, at a minimum of 3 percent above optimum moisture content as determined in ASTM D1557.** All on site clay soil that is utilized for fill below the top 18 inches of the building pad shall be compacted to a minimum of **90 percent relative compaction, at a moisture content at or above the optimum moisture content as determined in ASTM D1557.** If compaction and moisture conditions are not as specified, the fill or recompacted subgrade will be considered unacceptable and reworking of the fill or subgrade shall be required.

Fill placed on the building pad should be placed as engineered fill as recommended in Appendix A. The engineered fill should extend at least 5 feet beyond the perimeter of any foundations. On site soils are suitable for use as engineered fill.

5.1.2 Building Foundation

Due to the potentially expansive soils encountered on the surface and the generally varying amount of fines encountered in the surface soils, **a clay inspection shall be performed after footing excavations are complete.** The purpose of this inspection is to try to reduce construction costs by determining which lots have surface clays, which necessitate pre-saturation as explained below in the "Floor Slabs" section. **If this inspection is not performed by our office, all lots should be treated as if they have expansive soils.**

If grading is accomplished as specified, foundations for the proposed buildings may consist of conventional spread footings and concrete slabs-on-grade. Minimum width of continuous footings is 12 inches. Footings should be carried to a minimum depth of 18 inches below nearest grade utilizing a bearing capacity of 2500 pounds per square foot total load. Bearing capacity may be increased by 1/3 for temporary wind and seismic loads. Potential settlement, either immediate or long term, of foundations constructed and loaded in this manner should be less than ½ inch total and $^1/_4$ inch differential. In calculating expected settlement, loading values were based on our experience with this type of project. Care should be taken to understand settlements may vary based on loading and associated footing sizes.

To ensure footings have adequate support, special care should be taken when footings are located adjacent to trenches. The bottom of such footings should be at least 1 foot below an imaginary plane with an inclination of 1.5 horizontal to 1.0 vertical extending upward from the nearest bottom edge of the adjacent trench.

Lateral resistance for spread footings may be provided by assuming a passive pressure acting against the side of the footings equal to 350 pounds per square foot equivalent fluid pressure. Lateral resistance may also be provided by computing friction between the bottom of the footing and the soil. A coefficient of friction of 0.35 should be utilized. If footings are cast against firm native soil, passive and friction may be combined but the passive resistance should be reduced by ½.

5.1.3 Building Slab

Four inches of clean gravel should be placed beneath the slab on grade. This gravel is in addition to any engineered fill that may be placed and should be well graded between a maximum size of 1 inch and a minimum size of 1/4 inch with zero percent passing the No. 4 sieve. The gravel should be covered by a impervious vapor barrier such as 10 mil visqueen or equivalent. The visqueen should be covered by 1 to 2 inches of sand to protect it during construction and to aid in curing the concrete. If construction is taking place in winter, sand may be substituted with 3/8" pea-gravel. Our office recommends that the slab be a minimum of 4 inches thick. The slab should be reinforced according to Section 1907.12 of the 2001 CBC. If welded wire fabric is desired, the contractor should request the manufactured sheets of wire mesh, in lieu of rolls, to insure more accurate placement. Exterior finish grades should be at or below the floor subgrade level unless special drainage and waterproofing features are employed to prevent moisture migration under the slab.

If surface sandy clays are present, the subgrade should be in a near saturated condition for a minimum depth of 18 inches below grade immediately prior to slab placement in these areas. Experience has shown that the best way to achieve the required saturation is to first cast the footings to within the thickness of the top of slab. The interior is then prepared with the addition of the gravel, visqueen, sand, and reinforcement. Water is then introduced into the gravel layer and allowed to saturate the clay (the perimeter footing will serve as a dike to retain the water). **The saturation is critical and should be verified by a representative from our office.**

5.2 Option 2 - Post Tensioned Foundations

The native clay subgrade should be moisture conditioned and scarified and recompacted to a depth of 12 inches. A uniform thickened post tensioned foundation will be used to structurally resist pressures from swelling clay soils.

5.2.1 Building Pad Preparation

Same as Option-1. **The native clay subgrade needs to be in a moist condition at the time the slab is poured and should be checked by a representative of our office.**

5.2.2 Building Foundation/Slabs

For this option the foundation/slabs should be post tensioned so that they may act as a unit. Post tensioned foundations should consist of a monolithic slab (California Uniformed Thickened Slab) with deepened areas for concentrated column loads. The post tensioned foundation should encompass an 8 to 10 inch thick slab with a minimum 12 inch deep (measured from top of slab) continuous shovel footing around the perimeter of the building. The post tensioned design engineer should be allowed to calculate the most feasible slab for the given soil conditions and design parameters presented herein.

Post tensioned slabs should utilize the following design parameters:

Edge Moisture Distance, E_m	
Center	**5.3 feet**
Edge	**2.6 feet**
Estimated Differential Swell, y_m	
Center Lift	**0.75 inches**
Edge Lift	**0.25 inches**
Allowable Bearing Capacity (Total load, dead plus live)	**2000 lb/sq ft**
Coefficient of Friction (between slab and subgrade)	**0.5**

The moistened subgrade should be covered by two layers of impervious vapor barrier such as 6 mil visqueen or equivalent, with seems and penetrations taped, in order to minimize subgrade friction when stressing and minimize moisture vapor traveling up though the slab. The visqueen should be covered by 1 to 2 inches of sand to protect it during construction and to aid in curing the concrete. Sand may be substituted with 3/8" pea-gravel during winter conditions. Exterior finish grades should be at or below the floor subgrade level unless special drainage and waterproofing features are employed to prevent moisture migration under the slab.

For this option, subgrade moisture conditions should be achieved, maintained, and checked by a representative from our office. ***If a post tensioned foundation is desired, our office is qualified and experienced in designing this type of foundation.***

5.3 Exterior Flatwork and Drainage

In areas where sandy clays are present, the subgrade of exterior concrete flatwork should also be in a moistened condition for a minimum depth of 18 inches prior to concrete placement. The concrete flat work should be reinforced due to potentially expansive surface soils.

Special care should also be taken to ensure adequate drainage is provided throughout the life of the structure. Properly designed and constructed foundations can be seriously damaged by neglecting to install and regularly verify performance of recommended drainage systems. Appropriate down spout extensions from roof drainage should fall on splash blocks a minimum of 2 feet from the structure or be tied to tight lines that drain away from the building. Flatwork adjacent to the building should slope a minimum of 1 percent for a distance of 5 feet. Exterior grade should slope away from the structure at a minimum slope of ½ inch per foot for a distance of 8 to 10 feet beyond the building perimeter. Care should be taken to ensure that landscaping is not excessively irrigated and to ensure that landscaping drains away from the structure. The expansive nature of the surficial clay soils make drainage considerations critical to the performance of the proposed building.

Implementation of drainage can effect surrounding developments. Consequently in addition to designing and constructing drainage for the subject site, the effects of the site drainage must be taken into consideration for surrounding sites.

5.4 Equipment Mobilization

If construction is occurring in winter months, the on site native clay soils may cause the site to be inaccessible. Construction of haul roads may be needed if construction is to take place during winter or spring time.

5.5 Testing, Inspections, and Review

Our office should be afforded the opportunity of reviewing the completed foundation and grading plans to verify that our recommendations have been properly interpreted and incorporated. Unless our office is allowed this opportunity, we disavow any responsibility from problems arising from failure to follow geotechnical recommendations or improper interpretation and implementation of our recommendations.

Our office should be retained to perform the recommended grading observations, compaction testing, clay inspection, and pre-saturation inspections . Unless we have been retained to provided these services, our office cannot be held responsible for problems arising during or after construction that could have been avoided had these services been performed. The fees for these services are in addition to that associated with this report.

6.0 PAVEMENT RECOMMENDATIONS

A representative soil sample was taken from the site and subjected to an R-value test in our laboratory. The location of this soil sample is shown on the location map, Plate No. 1. A design R-value of 28 resulted from the laboratory test. Traffic indices of 3.5 through 6.0 were used to design the pavement sections for the site based on our experience with similar sites. The project civil engineer should be afforded the opportunity of specifying the most appropriate traffic index for the proposed traffic and usage. If a different traffic index is desired or required, please contact our office and a suitable recommended design can be provided. Flexible (asphalt) pavement sections have been designed according to the latest addition of the Cal Trans Highway design manual and using a 20-year pavement life. The pavement sections designs are shown below.

FLEXIBLE PAVEMENT SECTION DESIGN					
Subgrade R-Value	Traffic Index	Traffic	Pavement Section, inches		
			Asphalt Concrete	Aggregate Base	Aggregate Subbase
28	3.5	auto	2.0	4.0	----
28	4.0	auto	2.5	5.0	----
28	5.0	auto/truck	3.0	6.0	----
28	6.0	auto/truck	4.0	7.0	----

The paving materials must conform to the requirements of the State of California, Department of Transportation, Standard Specification. Type B asphaltic concrete and class II aggregate base should be used. The subgrade should have a minimum R-value of 28.

The pavement area subgrade should be stripped of all organic matter, loose soil, or deleterious debris, and any required cuts made. A minimum of 8 inches of compacted subgrade should be provided beneath the pavement sections. The subgrade should be compacted to dry densities in excess of 95 percent of the maximum dry density with a minimum moisture content of at least optimum as obtainable in the ASTM D1557 Compaction Test.

Studies have indicated that a major factor in extending pavement life is to provide adequate drainage for both the pavement surface and subgrade. Care should be made during the development of the grading plan to provide for good drainage. We recommend that extruded concrete curbing not be utilized for planters. Landscaped and irrigated planters that exist or are constructed adjacent to pavement should have cut-off curbing constructed around them that extends a minimum of 4 inches into the subgrade soils or lime-treated base.

7.0 UTILITY CONSTRUCTION

Based on Occupational Safety and Health Standards, the soils encountered in our test holes classify as both Type C soils and generally cohesive and relatively stable. Type C soils require a maximum slope of 1.5:1 (horizontal to vertical) for excavations less than 20 feet deep. The contractor should have a competent person identify all soils encountered in excavations and refer to OSHA and Cal-OSHA standards to determine appropriate methods to protect individuals working in excavations.

Backfill placed in trenches should be placed in approximately 8 inch lifts in uncompacted thickness. However, thicker lifts may be used, provided the method of compaction is approved by the soil engineer and the required minimum degree of compaction is achieved. Material should be

compacted to at lease 90 percent of the maximum dry density obtained in the ASTM D1557 Compaction Test. The upper 8 inches of trench backfill within pavement areas should be compacted to at least 95 percent relative compaction.

8.0 LIMITATIONS

The recommendations of this report are based on the information provided regarding the proposed construction as well as the subsoil conditions encountered at the test hole locations. If the proposed construction is modified or re-sited, or if it is found during construction that subsurface conditions differ from those described on the test hole logs, the conclusions and recommendations of this report should be considered invalid unless the changes are reviewed and the conclusions and recommendations modified or approved in writing.

The analysis, conclusions and recommendations contained in this report are based on the site conditions as they existed at the time we drilled our test holes. It was assumed that the test holes are representative of the subsurface conditions throughout the site.

If there is a substantial lapse of time between the submission of our report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, we urge that our report be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse. This report is applicable only for the project and site studied. This report should not be used after 3 years.

Our professional services were performed, our findings obtained, and our recommendations proposed in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. Test findings and statements of professional opinion do not constitute a guarantee or warranty, expressed or implied.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of wetlands, hazardous or toxic materials in the soil, surface water, groundwater or air, on or below or around this site. Any statements in this report or on the soil logs regarding odors noted or unusual or suspicious items or conditions observed are strictly for the information of our client.

APPENDIX A
ENGINEERED FILL SPECIFICATIONS

SCOPE

Principal items of work included in this section are as follows:

A. Cleaning and Striping
B. Construction of Fill

A. CLEANING AND STRIPPING

Work includes cleaning and stripping of the building pad and surrounding area as indicated on the drawings. From this area remove all debris, old pavement, trees, brush, roots, and vegetable ruin and grub out all large roots (½ inch or greater diameter) to a depth of at least two feet below the footing elevation. The vegetable materials and all materials from the cleaning operation shall be removed from the site.

B. CONSTRUCTION OF FILL

(1) Preliminary Operations

After the cleaning and stripping operation and the cuts have been completed and before any fill is placed in any particular area, all scarified and recompacted subgrade and on-site clay soil in the surface 18 inches of finished pad grade shall be placed and compacted to between **88 and 92 percent relative compaction, at a minimum of 3 percent above optimum moisture content as determined in ASTM D1557.** Native soils below the surface 18 inches of finished pad grade should be compacted to **a minimum of 90 percent relative compaction, at a minimum moisture content at or above optimum moisture content as determined in ASTM D1557.** All scarified and recompacted subgrade which is not sandy clay (as determined by our office) shall be compacted to 90 percent relative compaction, at optimum moisture content as determined in ASTM D1557. If compaction and moisture specifications are not as specified, the fill or recompacted subgrade will be considered unacceptable and reworking of the fill or subgrade shall be required. It may be necessary to adjust the moisture content of the subgrade soil by watering or aeration, to bring the moisture content of the soil to the specified moisture and compaction percentages.

Any non-expansive fill used shall be placed at 90 percent minimum relative compaction, at optimum moisture.

(2) Source of Material

Engineered fill materials (on site or import) shall consist of sandy silts, sands, or sands and gravels unless stated otherwise in the report. Engineered fill material shall not

contain rocks greater than 3 inches in greatest dimension and should be non-expansive in nature with a plasticity index less than 12.

At least 7 days prior to the placement of any fill, the engineer shall be notified of the source of materials and samples shall be obtained to determine the suitability of the materials and for conducting laboratory compaction test on these samples.

(3) Placing and Compacting

Fill materials shall be spread in layers and shall have a uniform moisture content that will provide the specified dry density after compaction. If necessary to obtain uniform distribution of moisture, water shall be added to each layer by sprinkling and the soil disced, harrowed, or otherwise manipulated after the water is added. The layers of the fill material shall not exceed 8 inches and each layer shall be compacted with suitable compaction equipment to provide the specified dry densities.

(4) Required Densities

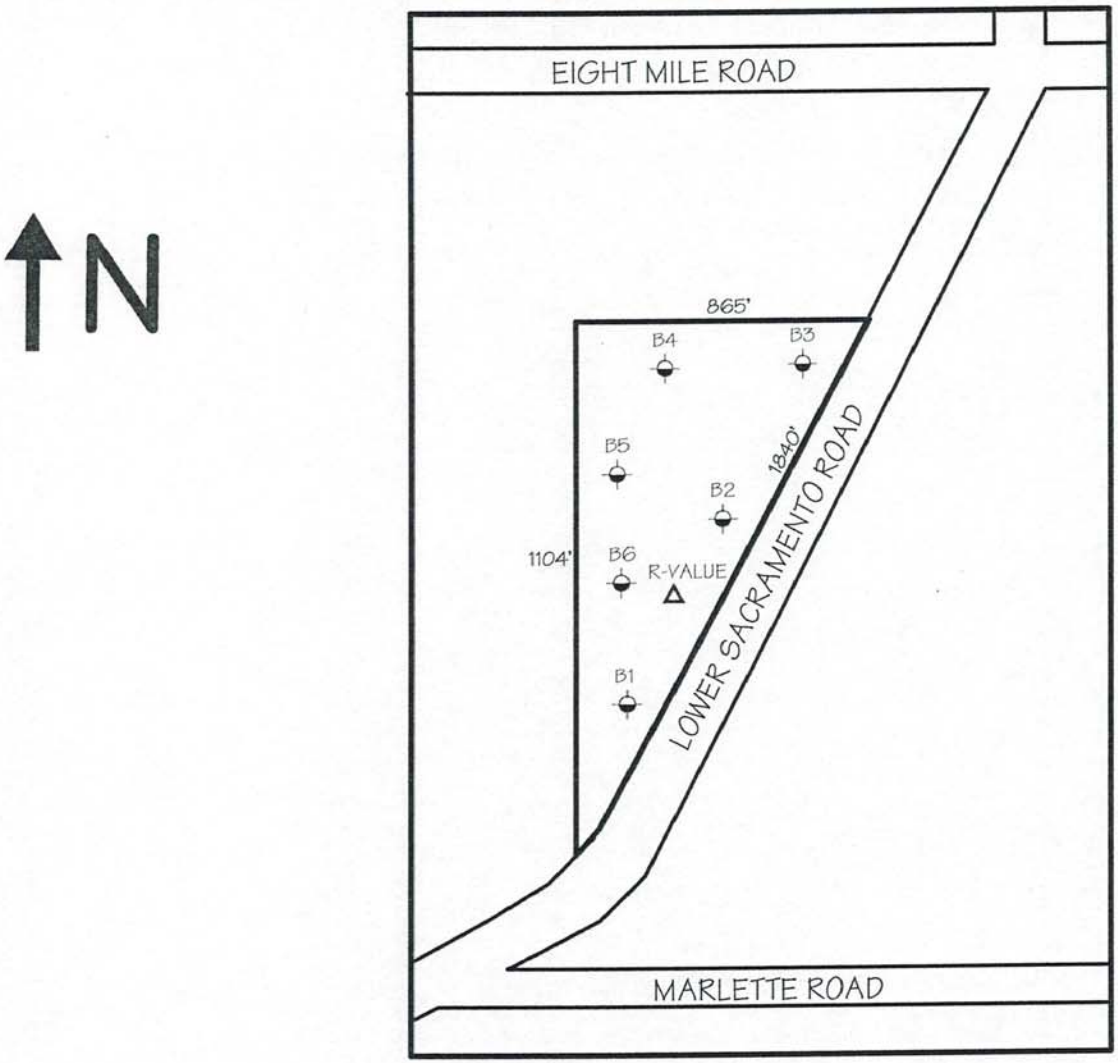
The dry density of the compacted earth fill shall be as specified in the Grading Section of this report. The value of the optimum moisture content and maximum dry density will be determined by the engineer and this information supplied to the contractor.

(5) Seasonal Limits

No fill shall be placed during weather conditions which will alter the moisture content of the fill materials sufficiently to make adequate compaction impossible. After placing operations have been stopped because of adverse weather conditions, no additional fill material shall be placed until the last layer compacted has been checked and found to be compacted to the specified densities.

(6) Control of Compaction

The density of the upper 6 inches of subgrade and of each layer of fill shall be checked by the engineer after each layer has been compacted, Field density test shall be used to check the compaction of the fill materials. Sufficient tests shall be made on each layer by the engineer to assure adequate compaction throughout the entire area. If the dry densities are not satisfactory, the contractor will be required to increase the weight of the roller, the number of passes of the roller, or manipulate the moisture content as required to produce the specified densities.



EXPLANATION

Location of Test Holes (Approx.)

Location of R-Value (Approx.)

Location Map
LeBaron Subdivision
10789 Lower Sacramento Road
Stockton, California

NEIL O. ANDERSON AND ASSOCIATES

GEOTECHNICAL
ENVIRONMENTAL
GROUNDWATER
INSPECTIONS & TESTING
LABORATORY SERVICES
POOL ENGINEERING

Plate 1

Neil O. Anderson & Assoc., Inc.
902 Industrial Way, Lodi, CA 95240
(209)367-3701 Fax (209)333-8303

LOG OF TEST BORING

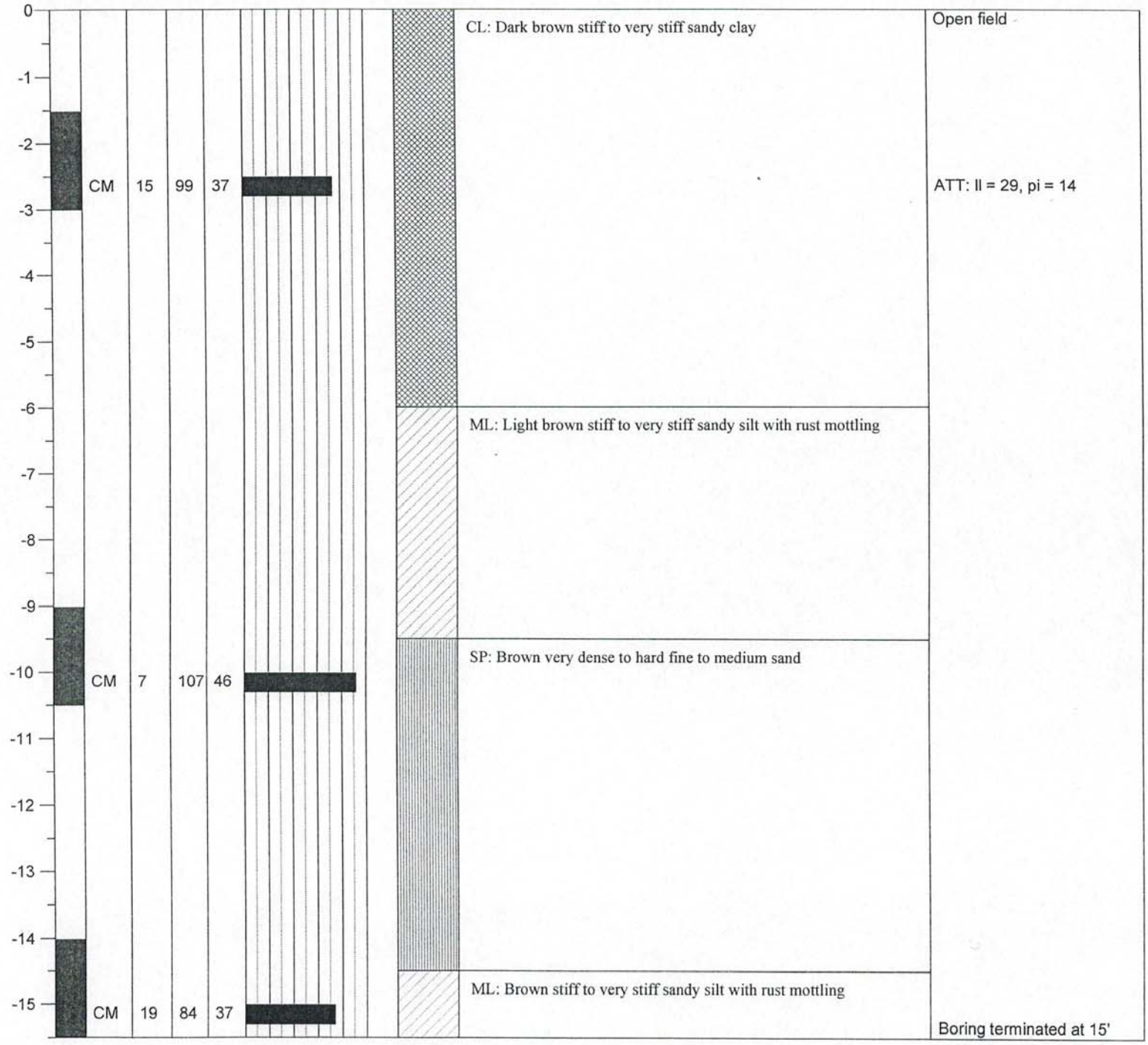
BOREHOLE NUMBER

B1

PROJECT NUMBER: **LG04-224**
PROJECT NAME: **LeBARON SUBDIVISION**
LOCATION: **STOCKTON, CA**
DRILLING EQUIP.: **B53 DRILL RIG**

DATE DRILLED: **07/20/2004**
GROUND SURFACE ELEVATION: **0.0** Feet

PLATE NO. 2



Neil O. Anderson & Assoc., Inc.
902 Industrial Way, Lodi, CA 95240
(209)367-3701 Fax (209)333-8303

LOG OF TEST BORING

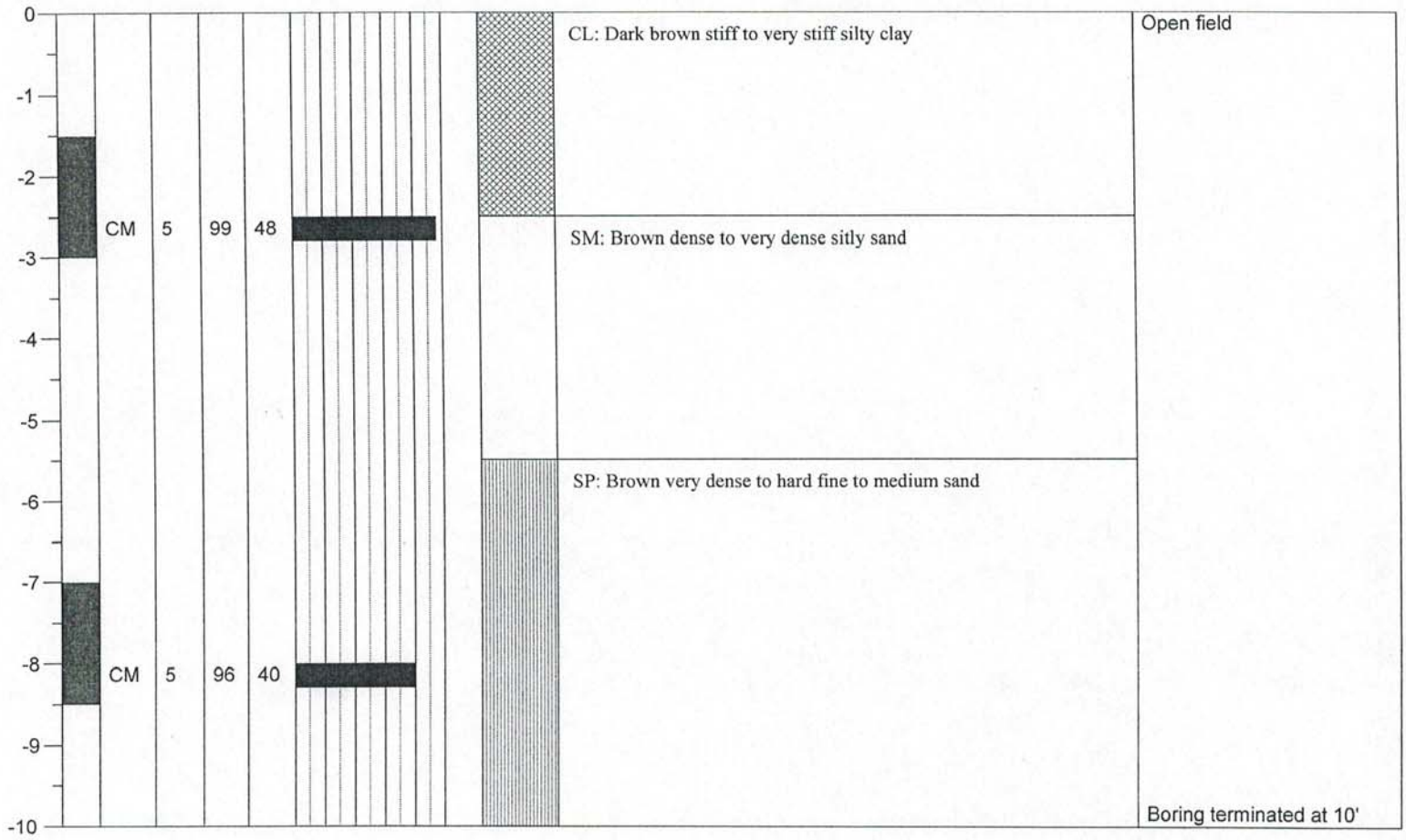
BOREHOLE NUMBER

B2

PROJECT NUMBER: **LG04-224**
PROJECT NAME: **LeBARON SUBDIVISION**
LOCATION: **STOCKTON, CA**
DRILLING EQUIP.: **B53 DRILL RIG**

DATE DRILLED: **07/20/2004**
GROUND SURFACE ELEVATION: **0.0** Feet

PLATE NO. 3



Neil O. Anderson & Assoc., Inc.
902 Industrial Way, Lodi, CA 95240
(209)367-3701 Fax (209)333-8303

LOG OF TEST BORING

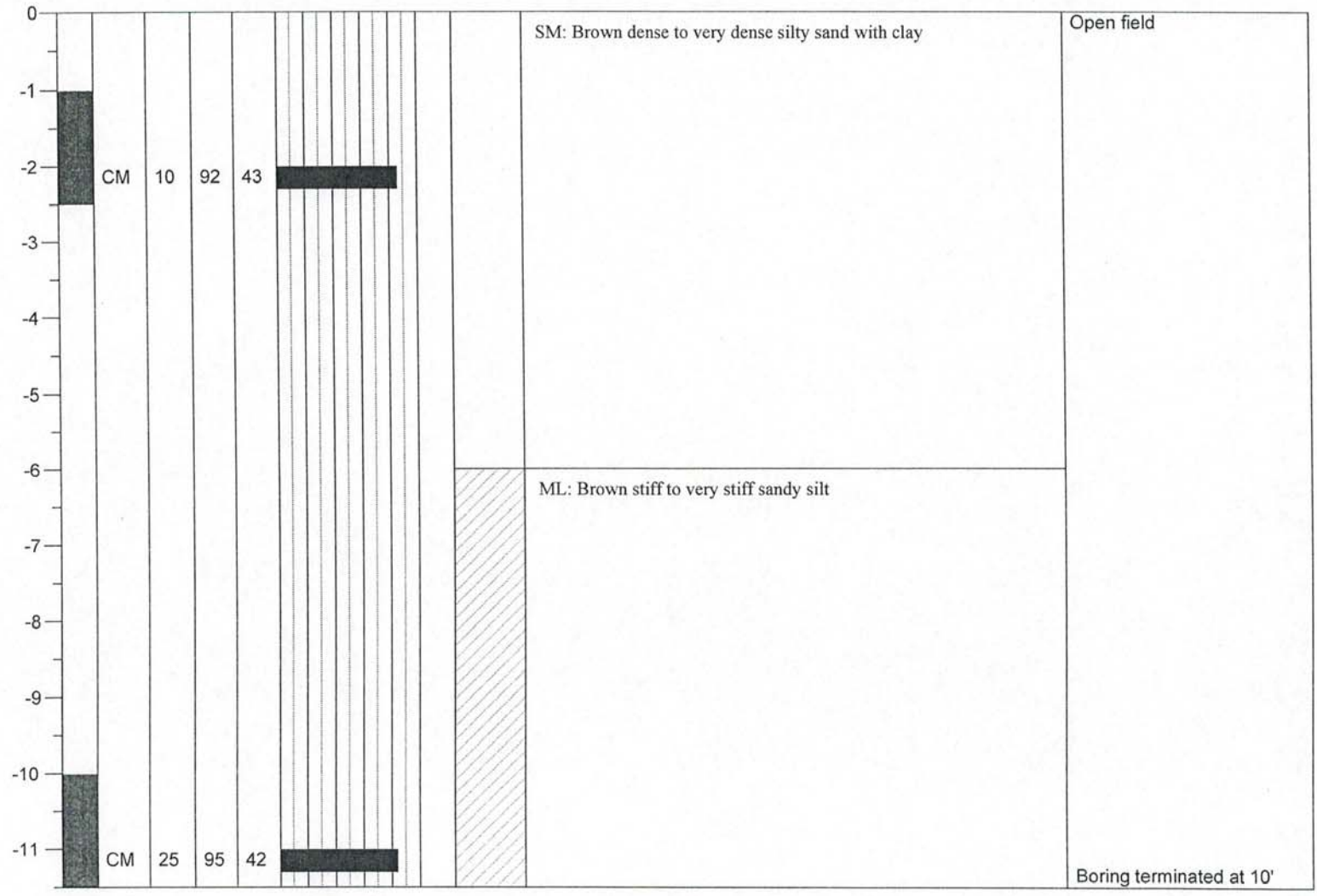
BOREHOLE NUMBER

B3

PROJECT NUMBER: **LG04-224**
PROJECT NAME: **LeBARON SUBDIVISION**
LOCATION: **STOCKTON, CA**
DRILLING EQUIP.: **B53 DRILL RIG**

DATE DRILLED: **07/20/2004**
GROUND SURFACE ELEVATION: **0.0** Feet

PLATE NO. 4



Neil O. Anderson & Assoc., Inc.
902 Industrial Way, Lodi, CA 95240
(209)367-3701 Fax (209)333-8303

LOG OF TEST BORING

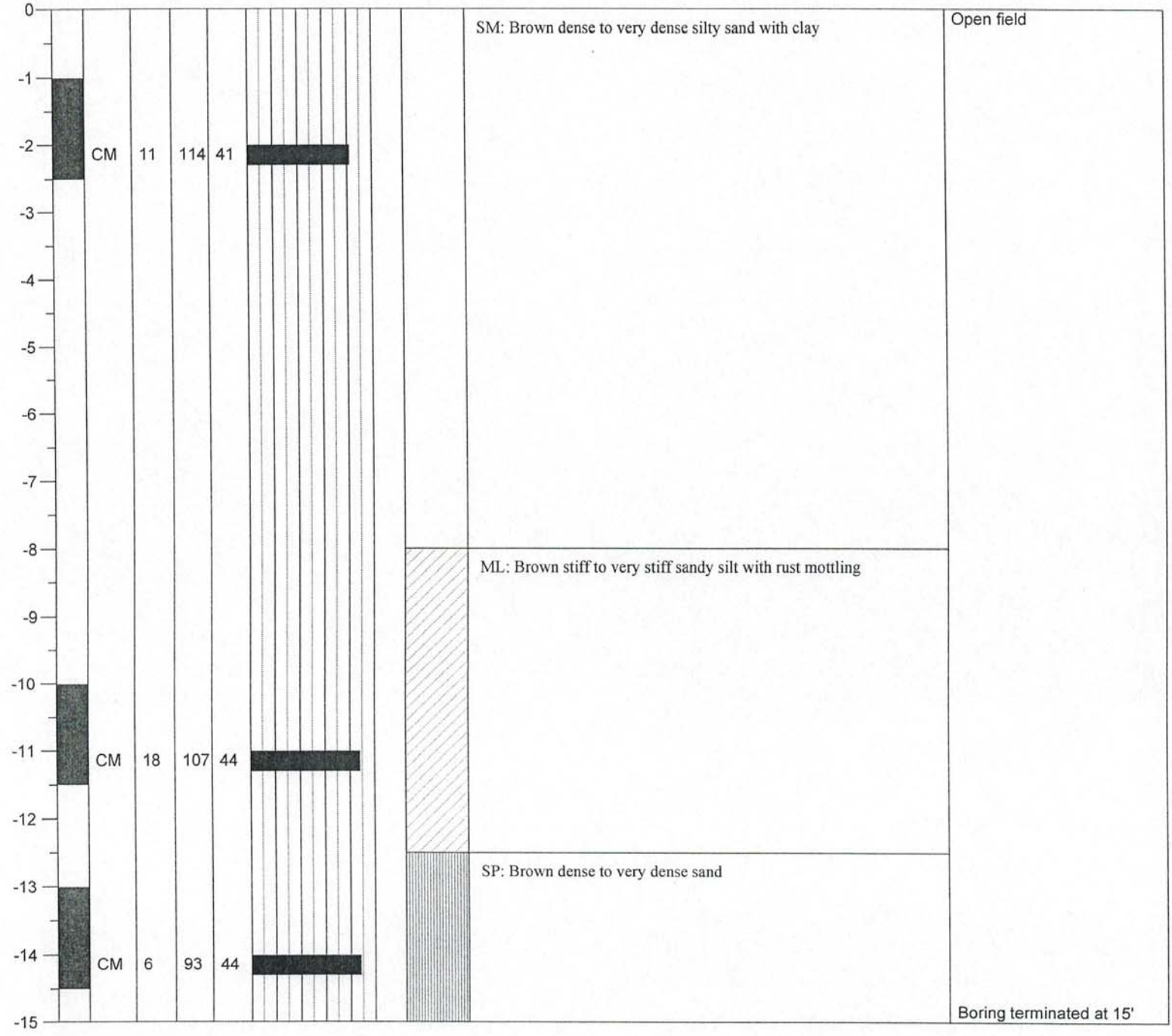
BOREHOLE NUMBER

B4

PROJECT NUMBER: **LG04-224**
PROJECT NAME: **LeBARON SUBDIVISION**
LOCATION: **STOCKTON, CA**
DRILLING EQUIP.: **B53 DRILL RIG**

DATE DRILLED: **07/20/2004**
GROUND SURFACE ELEVATION: **0.0** Feet

PLATE NO. 5



Neil O. Anderson & Assoc., Inc.
902 Industrial Way, Lodi, CA 95240
(209)367-3701 Fax (209)333-8303

LOG OF TEST BORING

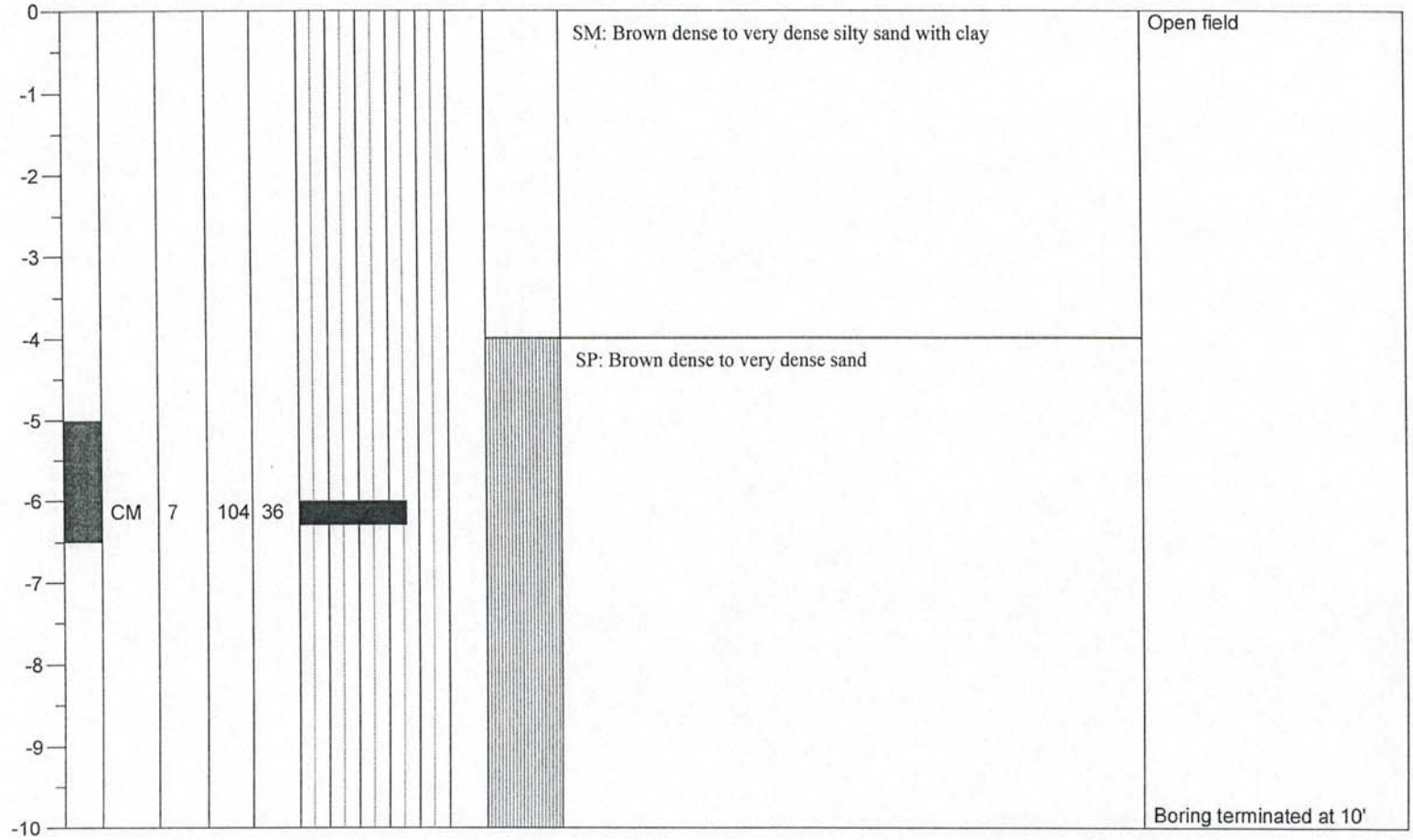
BOREHOLE NUMBER

B5

PROJECT NUMBER: **LG04-224**
PROJECT NAME: **LeBARON SUBDIVISION**
LOCATION: **STOCKTON, CA**
DRILLING EQUIP.: **B53 DRILL RIG**

DATE DRILLED: **07/20/2004**
GROUND SURFACE ELEVATION: **0.0** Feet

PLATE NO. 6



Neil O. Anderson & Assoc., Inc.
902 Industrial Way, Lodi, CA 95240
(209)367-3701 Fax (209)333-8303

LOG OF TEST BORING

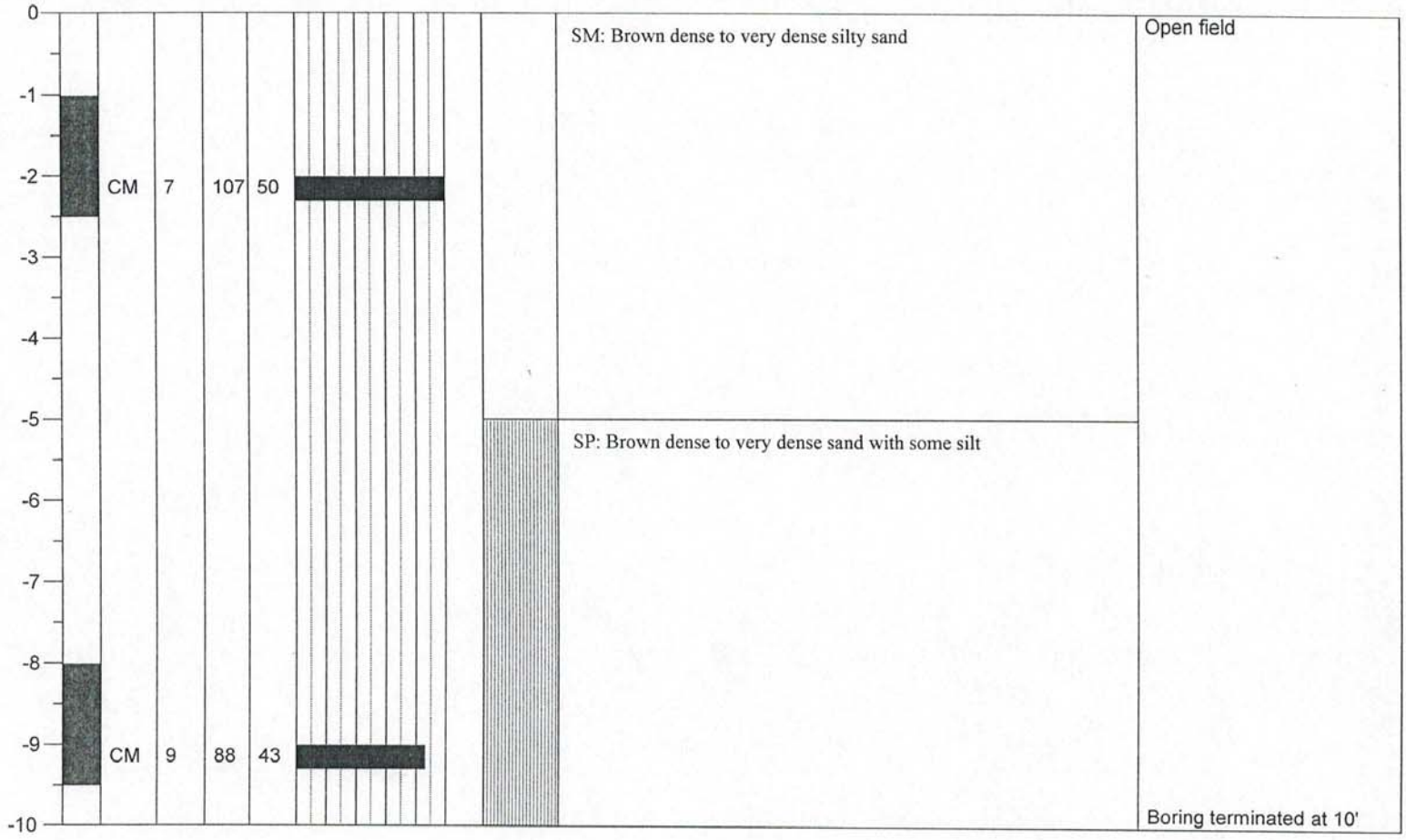
BOREHOLE NUMBER

B6

PROJECT NUMBER: **LG04-224**
PROJECT NAME: **LeBARON SUBDIVISION**
LOCATION: **STOCKTON, CA**
DRILLING EQUIP.: **B53 DRILL RIG**

DATE DRILLED: **07/20/2004**
GROUND SURFACE ELEVATION: **0.0** Feet

PLATE NO. 7



APPENDIX D
TRAFFIC IMPACT ANALYSIS

KD Anderson & Associates, Inc.

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G ·Loomis, CA 95650
(916) 660-1555 · Fax (916) 660-1535
E-mail: wshijo@kdanderson.com

MEMORANDUM

TO: Heba El-Guindy, T.E., City of Stockton

COPY TO: Mike McDowell, City of Stockton
Kevin Colin, City of Stockton
Jenny Liaw, City of Stockton
Wayne LeBaron, LeBaron Development
Jeff Sanguinetti, A R Sanguinetti & Associates

FROM: Wayne Shijo, KD Anderson & Associates

SUBJECT: Elderberry Project Traffic Analysis

DATE: November 2, 2018 **PROJECT:** Elderberry Project – 6558-01

The purpose of this memorandum is to present an assessment of the need for an updated traffic impact analysis (TIA) of the Elderberry Project. The following is an introduction, description of the assessment, and summary of the conclusions of the assessment.

INTRODUCTION

The Elderberry Project is a proposed residential land use development in the City of Stockton. The project site is generally located south of Eight Mile Road and west of Lower Sacramento Road. The northern boundary of the project site is approximately 700 feet south of Eight Mile Road. The project would include 154 multiple family dwelling units and 42 detached senior adult housing units for residents 55 years and older. The enclosed Figure 1 shows the site plan for the Elderberry Project.

Access to the project site would be provided by an eastward extension of the current eastern terminus of Villa Point Drive to an intersection with Lower Sacramento Road. The intersection of Lower Sacramento Road & Villa Point Drive would provide right-in/right-out turn access; no left turn movements would be allowed at this intersection.

The Elderberry Project was one of three land use development projects analyzed in the December 2004 *Focused Traffic Analysis for the North Stockton Projects* (2004 TIA). The 2004 TIA was part of the analysis that led to approval of the Elderberry Project in 2006. At the time of the 2004 TIA, the Elderberry Project consisted of 116 apartment / senior dwelling units and 50 single family dwelling units.

ASSESSMENT

The need for an updated TIA of the Elderberry Project is based on the following four factors:

- **Trip Generation.** The number of trips that would be generated by the Elderberry Project would affect the direct impacts of the project. An increase in trip generation, compared to the 2004 TIA, would increase the direct impacts of the project.

- **Traffic Counts.** The level of current background traffic volumes on roadways in the study area would affect the near-term impacts of the Elderberry Project. An increase in traffic volumes, compared to the 2004 TIA, would increase near-term impacts.

- **Forecasted Cumulative Volumes.** The level of long-term future traffic volumes on roadways in the study area would affect the long-term cumulative impacts of the Elderberry Project. An increase in long-term future volumes would increase cumulative traffic impacts.

- **Site Access.** Changes in access to the project site would affect the circulation and access impacts of the Elderberry Project.

Each of these four factors is addressed in this memorandum.

Trip Generation

The enclosed **Table 1** presents the trip generation estimate for the Elderberry Project as analyzed in the 2004 TIA. As shown in **Table 1**, the project would generate 118 p.m. peak hour trips, with 76 inbound and 42 outbound trips.

The enclosed **Table 2** presents a trip generation estimate for the Elderberry Project as currently proposed. As shown in **Table 2**, the project would generate 99 p.m. peak hour trips, with 62 inbound and 37 outbound trips.

Because the Elderberry Project as currently proposed would generate fewer trips, compared to the 2004 TIA, the Elderberry Project as currently proposed would not have increased direct impacts, compared to the 2004 TIA.

Traffic Counts

The City of Stockton maintains a series of Daily Traffic Volume maps. These maps show existing daily traffic volumes on major roadways in the City. The City updates the maps periodically, and data for the years 2003, 2005, 2007, and 2014 are available.

In addition to the Daily Traffic Volume maps, traffic volume count data have been collected for the City of Stockton General Plan Update and are available from the City internet website. These data provide traffic volumes for the year 2016.

KD Anderson & Associates (KDA) compiled daily traffic volume data for the years listed above for two roadway segments:

- Eight Mile Road west of Lower Sacramento Road, and
- Lower Sacramento Road south of Eight Mile Road.

These data are presented in the enclosed **Table 3** and **Figure 2**. The following is a brief summary of the data:

- Overall traffic volumes in the vicinity of the Elderberry Project site show an increase from 2003 to approximately 2005 or 2007. From 2005 or 2007 to 2016, traffic volumes show no increase and, perhaps, a slight decrease.

- Traffic volumes on Eight Mile Road show a moderate increase from 2003 to 2007, and a slight decrease from 2007 to 2016.

- Traffic volumes on Lower Sacramento Road show a slight increase from 2003 to 2005, and almost no change from 2005 to 2016.

Traffic volumes change on a day-to-day basis. On a single roadway, the traffic volume on any particular day may be several percent different on the next day. As a result, small changes in traffic volumes from year to year should not be considered important. With this in mind, while the data presented in the enclosed table and graph show some changes from year to year, the data do not indicate a consistent pattern of increasing traffic volumes from the time of the 2004 TIA to the present.

Because of the lack of a consistent pattern of increases in background traffic volumes from the time of the 2004 TIA to the present, near-term impacts due to the Elderberry Project would not increase, compared to the 2004 TIA.

Forecasted Cumulative Volumes

Long-term future background traffic volume forecasts are used to assess the impacts of projects under Cumulative conditions. These forecasts are based on the adopted City of Stockton General Plan, and forecasts prepared for the analysis of the General Plan. A travel demand model was used to develop the General Plan traffic volume forecasts. This model is documented in the 2004 report *City of Stockton – Travel Demand Model Development Report*.

The City is currently considering an update of the General Plan. However, the update has not been adopted and, therefore, would not be used to update long-term future traffic volume forecasts for the Elderberry Project. An update of the Cumulative traffic analysis for the project would continue to be based on traffic volume forecasts prepared for the current adopted General Plan. As a result, an update of the Cumulative traffic analysis would be consistent with the long-term forecasts presented in the 2004 TIA, and an update is not warranted.

Site Access

Intersection of Lower Sacramento Road & Villa Point Drive. As noted above in the *Introduction* section of this memorandum, access to the Elderberry Project site would be provided by an eastward extension of the current eastern terminus of Villa Point Drive to a right-in/right-out intersection with Lower Sacramento Road. This is the same project site access analyzed in the 2004 TIA. Because the project site access analyzed in the 2004 TIA and the currently proposed access are identical, there would be no change to site access impacts of the Elderberry Project, and an update is not warranted.

During August 24, 2018 and September 25, 2018 meetings involving the Elderberry Project team and City staff, intersection control at the intersection of Villa Point Drive & Lower Sacramento Road was discussed. Because this intersection is proposed to be a right-in/right-out intersection, the proposed unsignalized intersection control is considered to be appropriate. Signalization of this right-in/right-out intersection would not be warranted.

Marlette Road and Point Drive – Correction and Clarification. During research conducted for this memorandum, a typographical error in the 2004 TIA was discovered. While the error does not affect conclusions presented in this memorandum and does not affect needed roadway improvements, the error is related to access to the Elderberry Project site and the following correction is offered. On page 18, the 2004 TIA notes,

> "**EPAP plus Project Impact -2:** The intersection of Lower Sacramento Road and Point Villa Drive is anticipated to meet signal warrants under EPAP Plus Project conditions."

The 2004 TIA goes on to identify signalization of this intersection as a mitigation measure for EPAP Plus Project conditions. In the above quoted impact statement, the word "Villa" should not have been included. The reference to the "intersection of Lower Sacramento Road and Point Villa Drive" should have been the "intersection of Lower Sacramento Road and Point Drive".

Since the time of the 2004 TIA, the roadway referred to as "Point Drive" has been named "Marlette Road". Therefore, the mitigation measure for EPAP Plus Project conditions should be signalization of the intersection of Lower Sacramento Road and Marlette Road. This intersection is currently signalized, and operates as described under mitigated conditions presented in the 2004 TIA.

The 2004 TIA also includes, as mitigation measure for EPAP Plus Project conditions, signalization of "the intersection of Eight Mile Road and Point Drive". As noted in the previous paragraph, "Point Drive" has been named "Marlette Road". Therefore, this mitigation measure should be signalization of the intersection of Eight Mile Road and Marlette Road. This intersection is currently signalized, and operates as described under mitigated conditions presented in the 2004 TIA.

Project Site Access Intersections. The 2004 TIA presented analysis of four intersections that provide access to the Elderberry Project site:

- Eight Mile Road & Lower Sacramento Road,
- Marlette Road & Eight Mile Road,
- Marlette Road & Lower Sacramento Road, and
- Villa Point Drive & Lower Sacramento Road.

The first intersection listed above, Eight Mile Road & Lower Sacramento Road, was signalized at the time the 2004 TIA was prepared. The second and third intersections, Marlette Road & Eight Mile Road and Marlette Road & Lower Sacramento Road, have been constructed since the time of the 2004 TIA and have been signalized. All three signalized intersections are operating at acceptable operational conditions. With the geographic dispersion of project-related trips, these intersections would be expected to continue operating at acceptable conditions with implementation of the Elderberry Project.

With implementation of the Elderberry Project, turn movements at the future intersection of Lower Sacramento Road & Villa Point Drive would be limited right-turns inbound and right-turns outbound – no left turns would be allowed. As a result, this future intersection would also be expected to operate at acceptable conditions.

CONCLUSIONS

As described in more detail above, this memorandum presents an assessment of the following four topics:

- trip generation,
- traffic counts,
- forecasted cumulative volumes, and
- site access.

For each of the four topics, this assessment concludes an update of the 2004 TIA is not necessary. As a result, it is recommended that the 2004 not be updated.

Please let me know if you have any questions about this memorandum.

enclosures

KDA

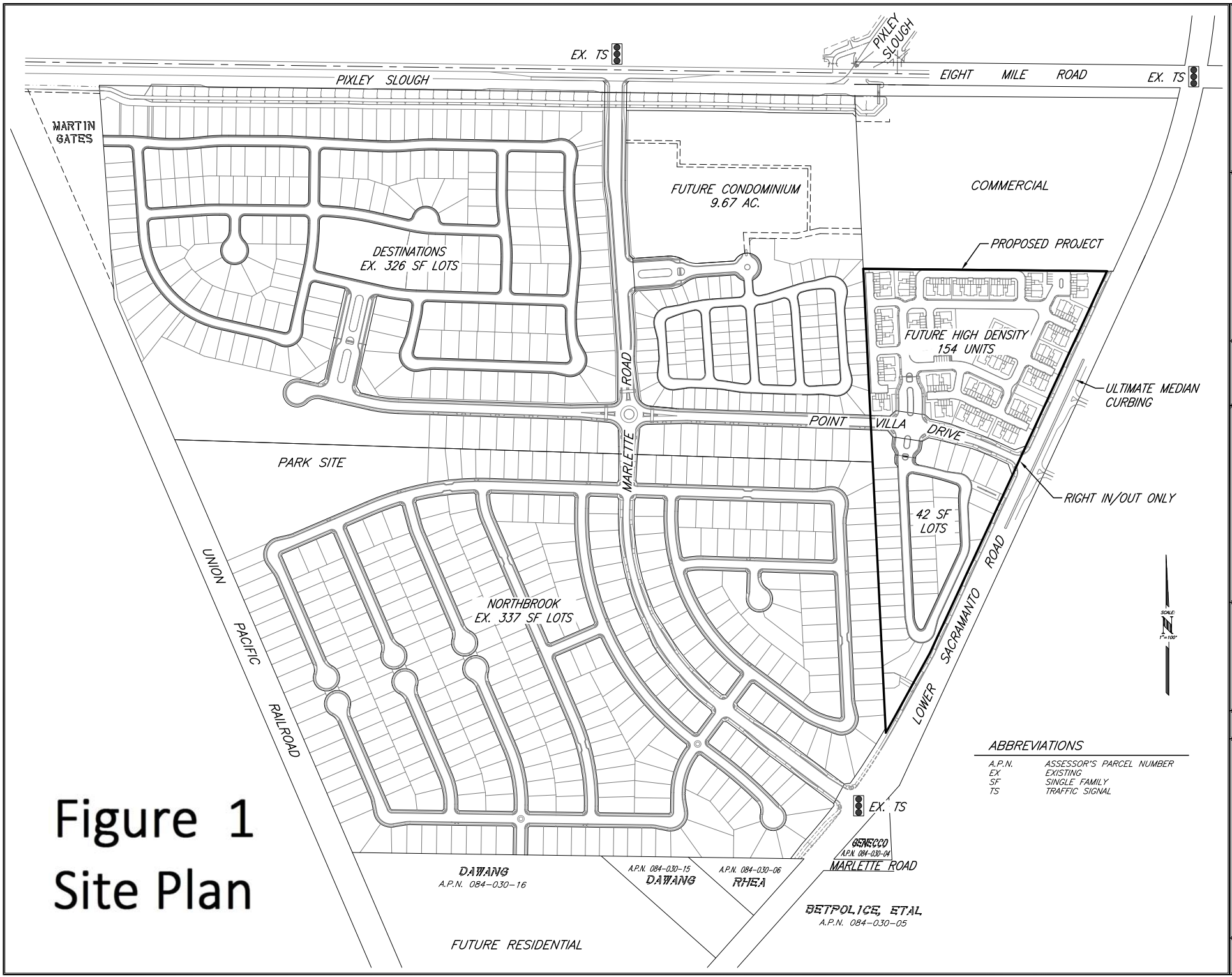


Figure 1
Site Plan

A.R. SANGUINETTI & ASSOCIATES
CONSULTING CIVIL ENGINEERS
SURVEYING AND MAPPING & PLANNING
STOCKTON, CALIFORNIA

REVISIONS

DESIGNED BY:
DRAWN BY: SLM
CHECKED BY: ARS/DLM
SCALE: AS SHOWN

NORTH STOCKTON PROJECTS
PHASE 3
OVERALL COMPOSITE

SHEET 1 OF 1 SHEETS

Table 1. Elderberry Project Trip Generation - 2004 Traffic Impact Analysis

Land Use and ITE Land Use Code	Quantity	PM Peak Hour					
		Trip Generation Rates			Trip Generation Estimates		
		In	Out	Total	In	Out	Total
Single-Family Housing (ITE Code 210)	50 Dwelling Units	0.64	0.37	1.01	32	19	51
Apartment / Senior Units (ITE Code 221)	116 Dwelling Units	0.38	0.20	0.58	44	23	67
				TOTAL	76	42	118

Source: *Focused Traffic Analysis for the North Stockton Projects*
Total may not equal the sum of components due to rounding

Table 2. Elderberry Project Trip Generation - as Proposed

Land Use and ITE Land Use Code	Quantity	PM Peak Hour					
		Trip Generation Rates			Trip Generation Estimates		
		In	Out	Total	In	Out	Total
Multifamily Housing (Low Rise) (ITE Code 220)	154 Dwelling Units	0.35	0.21	0.56	54	32	86
Senior Adult Housing - Detached (ITE Code 251)	42 Dwelling Units	0.18	0.12	0.30	8	5	13
				TOTAL	62	37	99

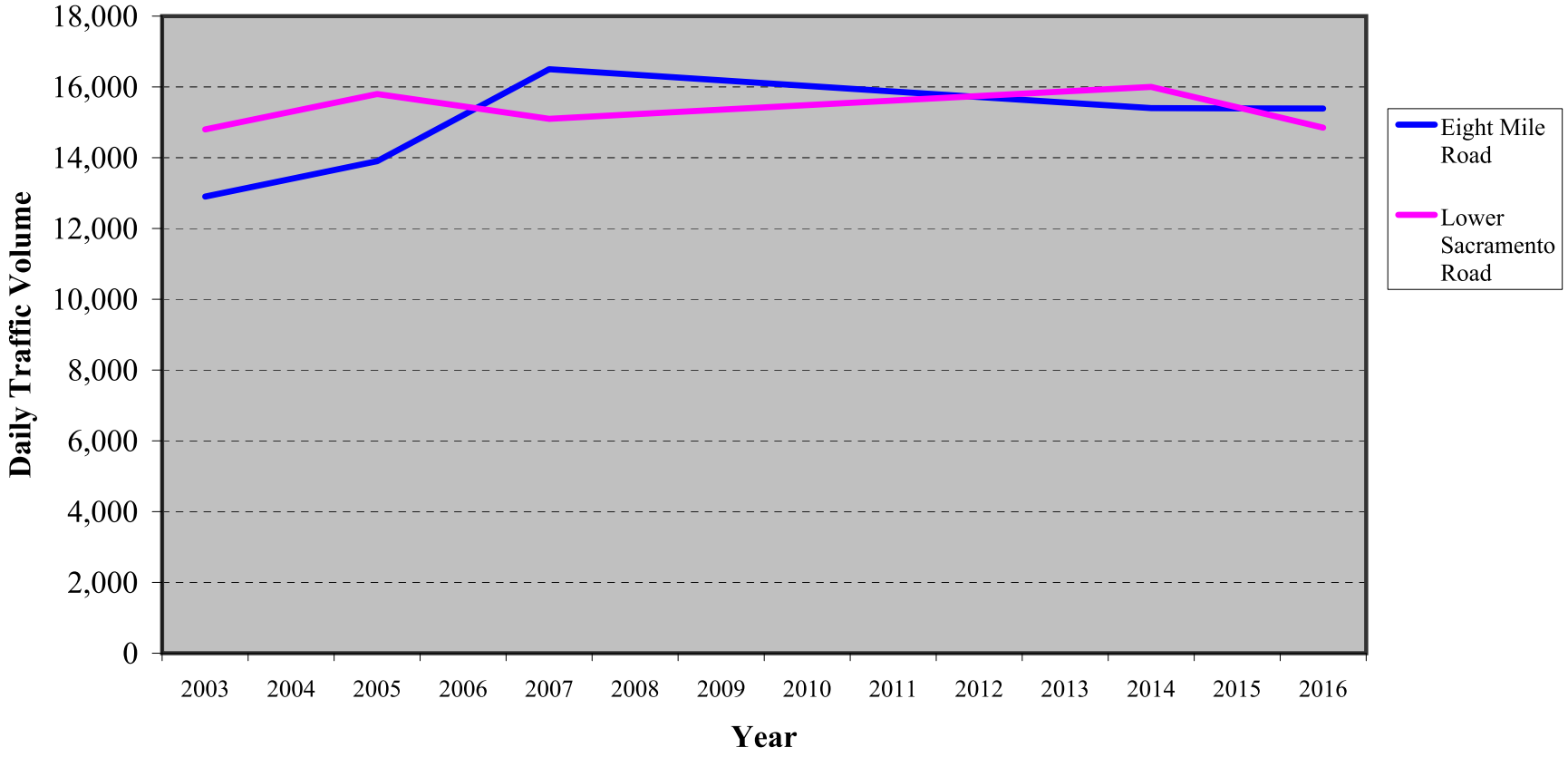
Source: Institute of Transportation Engineers*Trip Generation Manual 10th Edition*
Total may not equal the sum of components due to rounding

Table 3. Average Daily Traffic Volumes on Eight Mile Road and Lower Sacramento Road

Year	Eight Mile Road, West of Lower Sacramento Road	Lower Sacramento Road, South of Eight Mile Road
2003	12,900	14,800
2005	13,900	15,800
2007	16,500	15,100
2014	15,400	16,000
2016	15,390	14,850

Sources: City of Stockton Daily Traffic Volume Maps for 2003, 2005, 2007, and 2014.
Envision Stockton - 2040 General Plan Update and Utility Master Plan Supplements Draft EIR , Table A-2 for 2016.

Figure 2. Daily Traffic Volumes - Eight Mile Road and Lower Sacramento Road



FOCUSED TRAFFIC ANALYSIS FOR THE NORTH STOCKTON PROJECTS

Stockton, California

Prepared For:

INSITE ENVIRONMENTAL
6653 Embarcadero Drive, Suite Q
Stockton, CA 95219

Prepared By:

kdANDERSON Transportation Engineers
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

December 14, 2004

Job No. 6575-13

North Stockton – InSite.rpt

FOCUSED TRAFFIC ANALYSIS
FOR THE NORTH STOCKTON PROJECTS

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December 14, 2004

KDA

FOCUSED TRAFFIC ANALYSIS FOR THE NORTH STOCKTON PROJECTS

INTRODUCTION

This report documents **kdANDERSON Transportation Engineers'** analysis of the traffic impacts associated with development of the North Stockton Projects. The proposed projects involve development of three separate residential subdivisions located in the triangle between Eight Mile Road, Lower Sacramento Road, and the Union Pacific Railroad tracks. These projects were previously analyzed in the *Draft Environmental Impact Report (DEIR) for the North Stockton Projects Annexation*, December 1996. The proposed project includes development of the area at a lower density than in the DEIR, therefore, this analysis does not include all intersections in the DEIR, but focuses on those providing direct access to the three subdivisions. The intent of this analysis is to provide supplemental and updated information on that report.

This analysis is intended to quantify the traffic impacts of the project and address mitigation requirements at study intersections in the vicinity of the project site. Per current City of Stockton policy, the analysis addresses "Existing" traffic conditions in the area as well as "Existing plus Approved Projects" and "Cumulative" traffic conditions with and without the project.

Toward this end, "Existing" traffic conditions have been evaluated through observation of current weekday p.m. peak hour traffic volumes and through review of traffic count information available for the area. The a.m. peak hour was not address in this supplement, since residential traffic volumes are typically higher in the p.m. peak hour, and the current plan eliminates a proposed school site in the area that would generate its highest levels of traffic in the a.m. peak hour. Current intersection capacities and operating levels of service have been calculated. "Existing plus Approved Projects" conditions have also been analyzed as the basis against which project impacts could be assessed initially. Probable project trip generation has been estimated by applying appropriate trip generation rates to the project's land use inventory. Levels of Service (LOS) were recalculated to determine the anticipated impacts of the proposed development on "Existing Plus Approved Projects" traffic conditions in the area.

Project impacts were also determined under future "Cumulative" conditions. These conditions assume development under the City's current General Plan. Improvements needed to provide acceptable levels of service are discussed.

Intersection and street improvements required to provide satisfactory traffic operating conditions have been identified considering the following four (4) traffic scenarios:

1. Existing traffic conditions;
2. Existing Plus Approved Projects without the North Stockton Projects;
3. Existing Plus Approved Projects Plus the North Stockton Projects;
4. Cumulative traffic conditions

EXISTING SETTING

Existing traffic conditions in the study area were assessed by a program of field investigation, traffic counts, and traffic records research.

Four (4) intersections in the vicinity of the site have been analyzed in this report. These intersection locations, which are identified below, have been evaluated in this analysis to establish a basis for quantifying traffic impacts resulting from development of the site. Study locations identified by the City of Stockton Public Works staff include:

1. Eight Mile Road / Point Drive
2. Eight Mile Road / Lower Sacramento Road
3. Point Villa Drive / Lower Sacramento Road
4. Point Drive / Lower Sacramento Road

The Eight Mile Road / Lower Sacramento Road is the only existing intersection. The three other intersections will be constructed as part of the project. The text that follows describes streets and intersections serving the study area. Figure 1 displays the regional location of the project site. Figure 2 shows the study intersections and proposed road system serving the project.

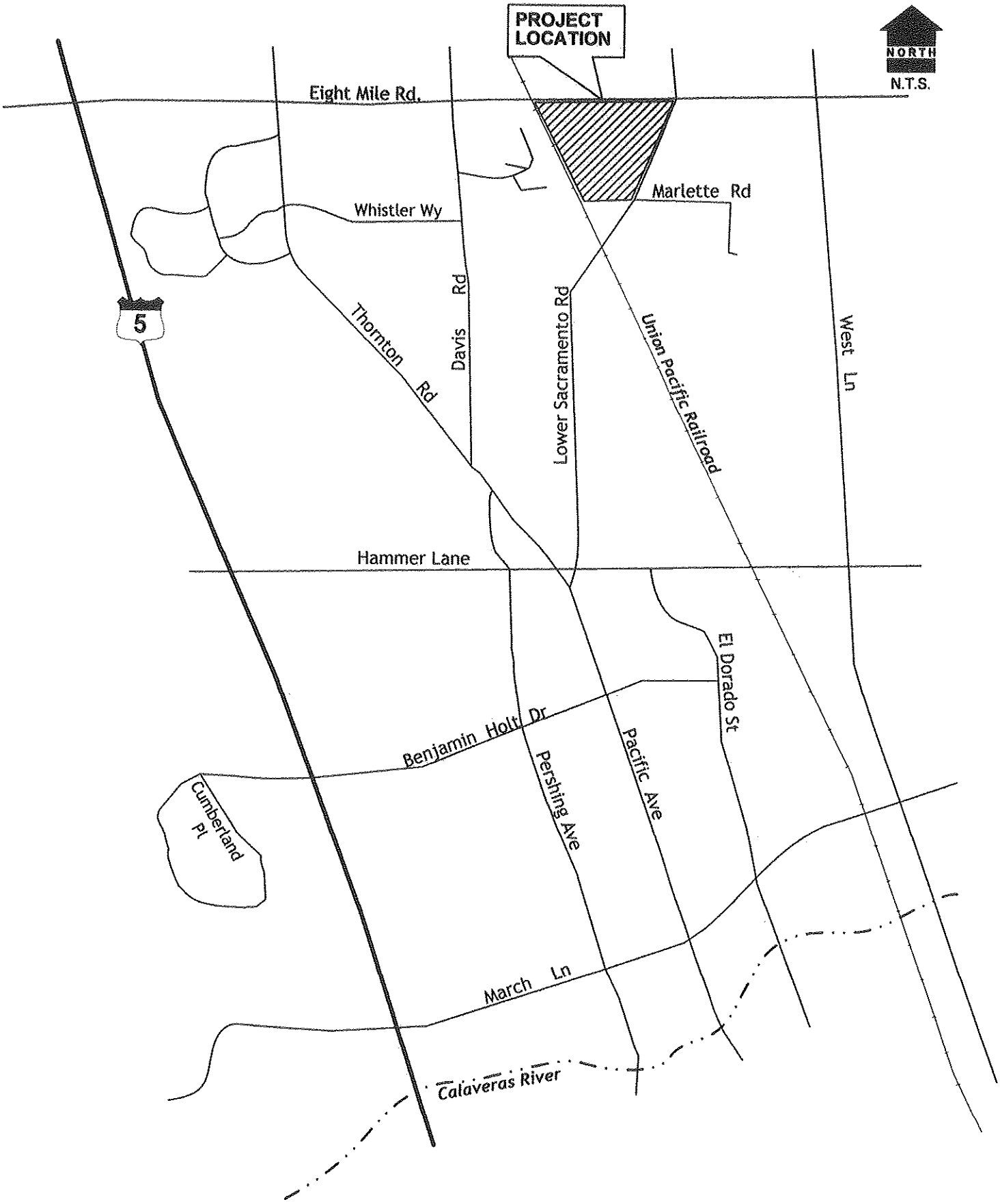
Streets and Highways

Eight Mile Road. Eight Mile Road provides regional access to the study area. In the vicinity of the project site, Eight Mile Road is a two-lane arterial. It connects I-5 and State Route (SR) 99 in the North Stockton area. Eight Mile Road currently carries approximately 13,000 ADT in the vicinity of the proposed project.

Lower Sacramento Road. Eighth Street is a two-lane north-south arterial that extends from central Stockton through the study area and north to Lodi. Existing ADT on Lower Sacramento Road in the project area is approximately 15,000.

Existing PM Peak Hour Traffic Volumes

kdANDERSON Transportation Engineers technicians conducted a new peak hour intersection turning movement count during September 2004. The intersection counts were conducted between 4:00-6:00 p.m. to isolate the one-hour peak hour traffic period. Figure 2 displays current traffic volume data at the existing study intersection, as well as the existing geometrics.

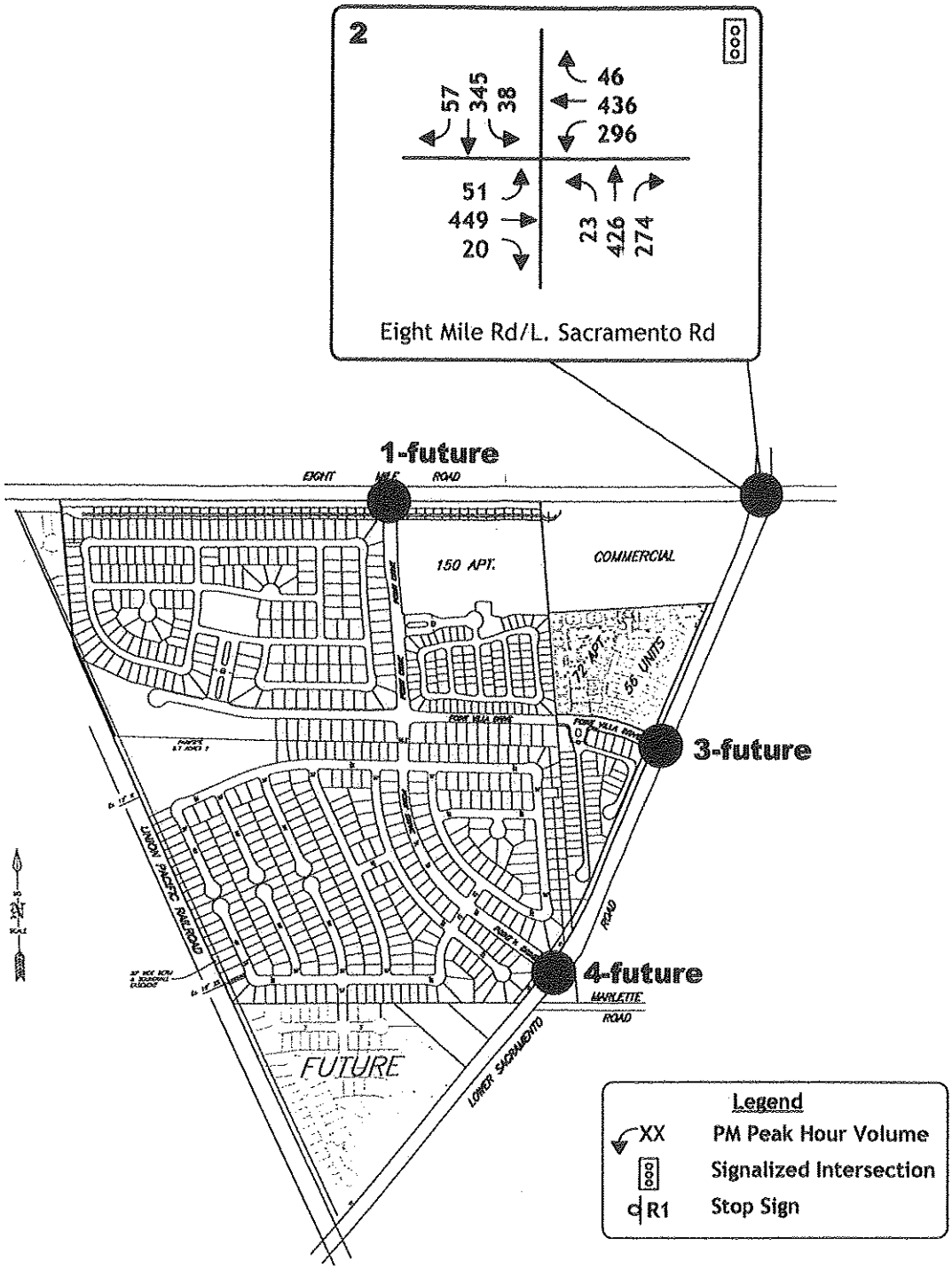


KD Anderson
Transportation Engineers

PROJECT LOCATION AND VICINITY MAP

6575-13tb 12/14/2004

figure 1



KD Anderson
Transportation Engineers

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

6575-13tb 12/14/2004

figure 2

Levels of Service - Methodology

"Level of Service" (LOS) is a quantitative measure of traffic operating conditions whereby a letter grade "A" through "F" is assigned to an intersection. LOS "A" through "F" represents progressively worsening traffic conditions. The characteristics associated with the various LOS for intersections are presented in Table 1.

Levels of service were calculated for this study using the methodology contained in the *2000 Highway Capacity Manual*. The overall Level of Service for intersections was determined based on the average length of delays for all motorists at signalized intersections. At unsignalized intersections the Level of Service was predicated on the length of the average delay experienced by all motorists who must yield the right of way before turning or continuing through an intersection.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: 2000 Highway Capacity Manual.			

Current Peak Hour Traffic Conditions

Existing traffic volumes are depicted in Figure 2.

Existing Levels of Service

Table 2 summarizes existing traffic operations and levels of service at study area intersections.

TABLE 2
EXISTING PEAK HOUR LEVELS OF SERVICE

Intersection	Control	PM Peak Hour	
		Average Delay	LOS
Eight Mile Road / Lower Sacramento Road	Signal	24.1 sec	C

LOS= Level of Service
Delay for signalized intersections is presented in seconds per vehicle

Signalized Intersection. As shown in Table 2, the one existing signalized intersection currently operates acceptably at LOS "C" during the p.m. peak hour.

Existing Transit Services

The Stockton Metropolitan Area Regional Transit (SMART) operates a comprehensive network of transit routes, which currently serve the City of Stockton. In the vicinity of the project site, no current fixed routes provide service to the area.

Bicycle/Pedestrian Circulation

No designated bicycle lanes are provided along Eight Mile Road or Lower Sacramento Road. Sidewalks are also not present on these roads in the study area.

EXISTING PLUS APPROVED PROJECTS (EPAP) TRAFFIC CONDITIONS

This report section describes traffic operations in the area of the proposed project site assuming all of the current "Approved Projects" in the area have been developed. The City of Stockton's existing development list, and forecast information contained in the *Cannery Park Traffic Impact Analysis* and the *Silver Spring Traffic Impact Study* were utilized to forecast intersection volumes

under this condition. Both of these projects are approved, and include traffic estimates from other approved projects in the area.

Local Circulation Changes/Improvements Identified Within the Study Area

No circulation improvements have been assumed in the study area for the "Approved Projects" condition.

Existing Plus Approved Projects Traffic Volume Forecasts

The traffic forecasts for the "Existing Plus Approved Projects" were used to produce p.m. peak hour intersection turning movement volumes. Figure 3 displays p.m. peak hour turning movement projections and intersection geometrics under this condition.

Existing Plus Approved Projects Levels of Service - No Project

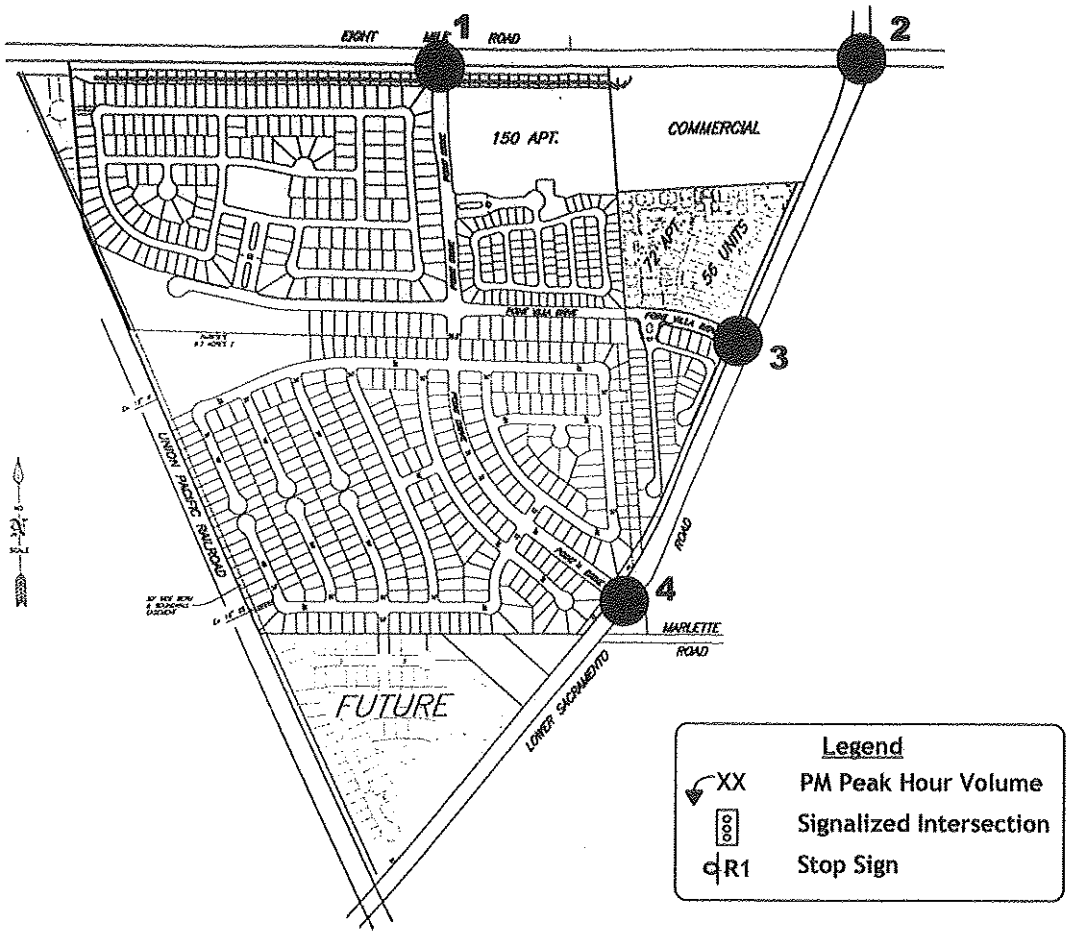
Table 3 presents the intersection levels of service for the "Approved Projects" condition. Only the Eight Mile Road / Lower Sacramento Road intersection is analyzed under this scenario: the other intersections are not constructed under the "No Project" condition.

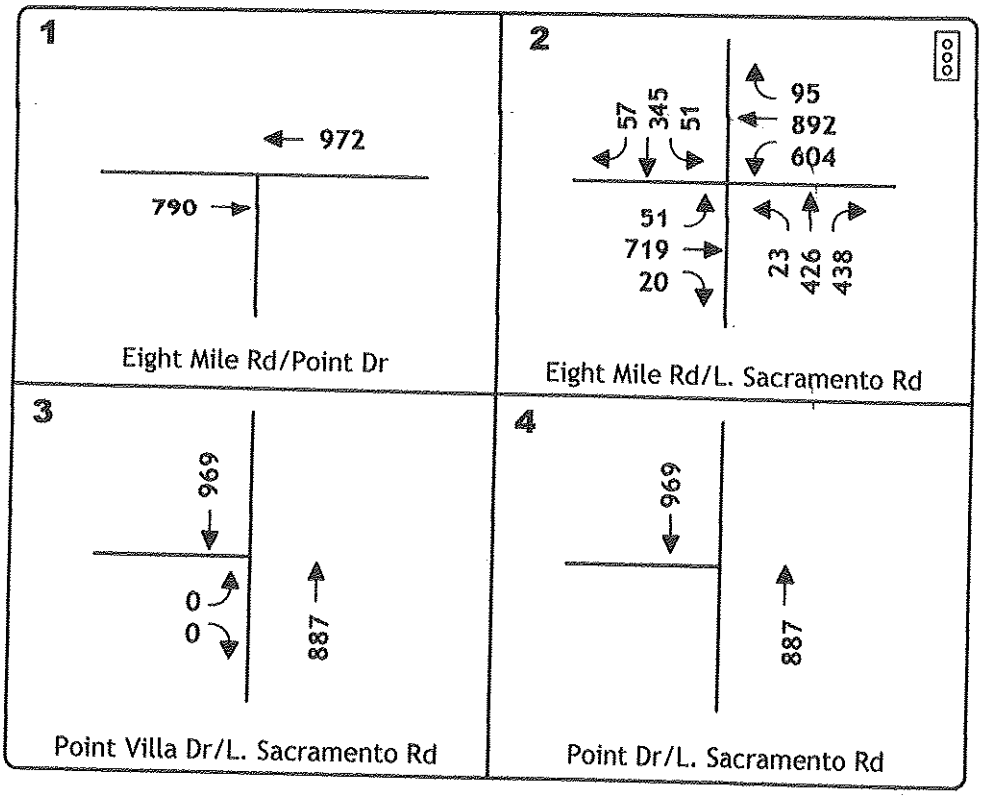
TABLE 3
EXISTING PLUS APPROVED PROJECTS PEAK HOUR LEVELS OF SERVICE

Intersection	Control	PM Peak Hour	
		Average Delay	LOS
Eight Mile Road / Lower Sacramento Road	Signal	69.9 sec	E

LOS = Level of Service
Delay for signalized intersections is presented in seconds per vehicle

Signalized Intersections. Build out of the approved projects in the area is projected to result in unacceptable traffic operations at the Eight Mile Road / Lower Sacramento Road intersection. Improvements necessary to reduce the impact at this location to acceptable conditions are identified in the **MITIGATION / RECOMMENDATIONS** section of this report.





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EXISTING PLUS APPROVED PROJECTS
PM PEAK HOUR TRAFFIC VOLUMES

6575-13tb 12/14/2004

figure 3

EXISTING PLUS APPROVED PROJECTS PLUS NORTH STOCKTON PROJECTS TRAFFIC CONDITIONS

Project Description

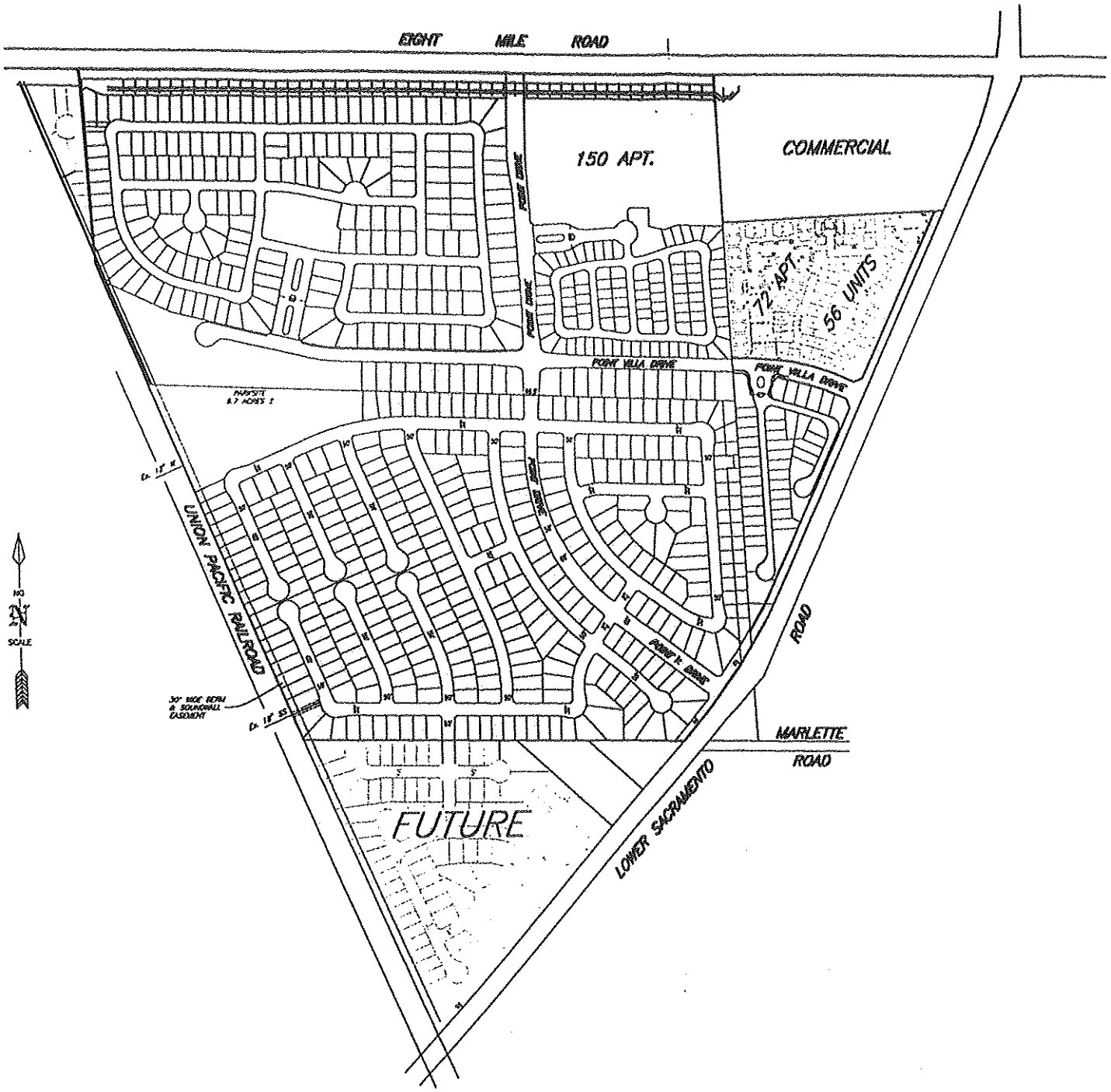
The North Stockton Projects are located in the triangle bounded by Eight Mile Road, Lower Sacramento Road, and the Union Pacific Railroad tracks. Development of the entire project will consist of a total of 713 single family dwelling units (du's), 72 apartment units, 150 townhome du's, and 44 senior du's. A site plan is depicted in Figure 4. The breakdown by individual project is as follows:

- Elderberry:
  72 Apartments
  50 Single Family Cluster Homes
  44 Senior Units

- Elkhorn Point:
  326 Single Family Units
  150 Townhomes

- Woodside:
  337 Single Family Units

Access to the project is proposed via three new intersections with Eight Mile Road and Lower Sacramento Road. Point Drive would intersect with Eight Mile Road approximately 2,000 feet west of the Lower Sacramento Road intersection and extend south to an intersection with Lower Sacramento Road. The Point Villa Drive / Lower Sacramento Road intersection would be located approximately 1,500 feet south of the Eight Mile Road / Lower Sacramento Road intersection and would be limited to right-turn-in and right-turn-out only movements. It would extend westward to Point Drive.



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SITE PLAN

6575-13

figure 4

Trip Generation

Trip Generation Rates. For this analysis the trip generation associated with the North Stockton Projects has been estimated based on trip generation rates published by the Institute of Transportation Engineers (ITE), *Trip Generation 7th Edition* and the City of Stockton transportation model. These rates are presented in Table 4 and resulting trip generation forecasts are presented in Table 5.

TABLE 4
TRIP GENERATION RATES

Land Use	Unit	ITE Code	PM Peak Hour		
			In	Out	Total
Single Family	DU	210	0.64	0.37	1.01
Apartment / Senior units	DU	221	0.38	0.20	0.58
Townhome	DU	231	0.45	0.33	0.78

Resulting trip generation estimates for the project are presented in Table 5. As shown, the North Stockton Projects are expected to generate 905 new trips during the p.m. peak hour.

TABLE 5
PEAK HOUR TRIP GENERATION

Land Use	Quantity	PM Peak Hour		
		In	Out	Total
Single Family	713	456	264	720
Apartment / Senior units	116	44	23	67
Townhome	150	68	50	118
Total	979	568	337	905

The original DEIR for the North Stockton Projects contained a slightly different composition of dwelling unit types and quantities. The land use summary and p.m. peak hour trips for the DEIR land uses are summarized in Table 6. Because the trip generation from the currently proposed projects is slightly less than analyzed in the DEIR, the area wide mitigation in that document remains valid. This evaluation, therefore, focuses on the intersections providing immediate access to the projects.

TABLE 6
NORTH STOCKTON DEIR TRIP GENERATION

Land Use	PM Trip Rate	Original EIR Units	Original PM Trips
Single Family	1.01	740	740
Multi-family	0.58	246	172
Total		986	912

Trip Distribution

Trip distribution from the project was estimated using existing traffic flow conditions, analysis of existing and future land use, and information derived from the City's transportation model. Table 7 summarizes the directional distribution for external project generated traffic relative to the Existing plus Approved Projects traffic model base year.

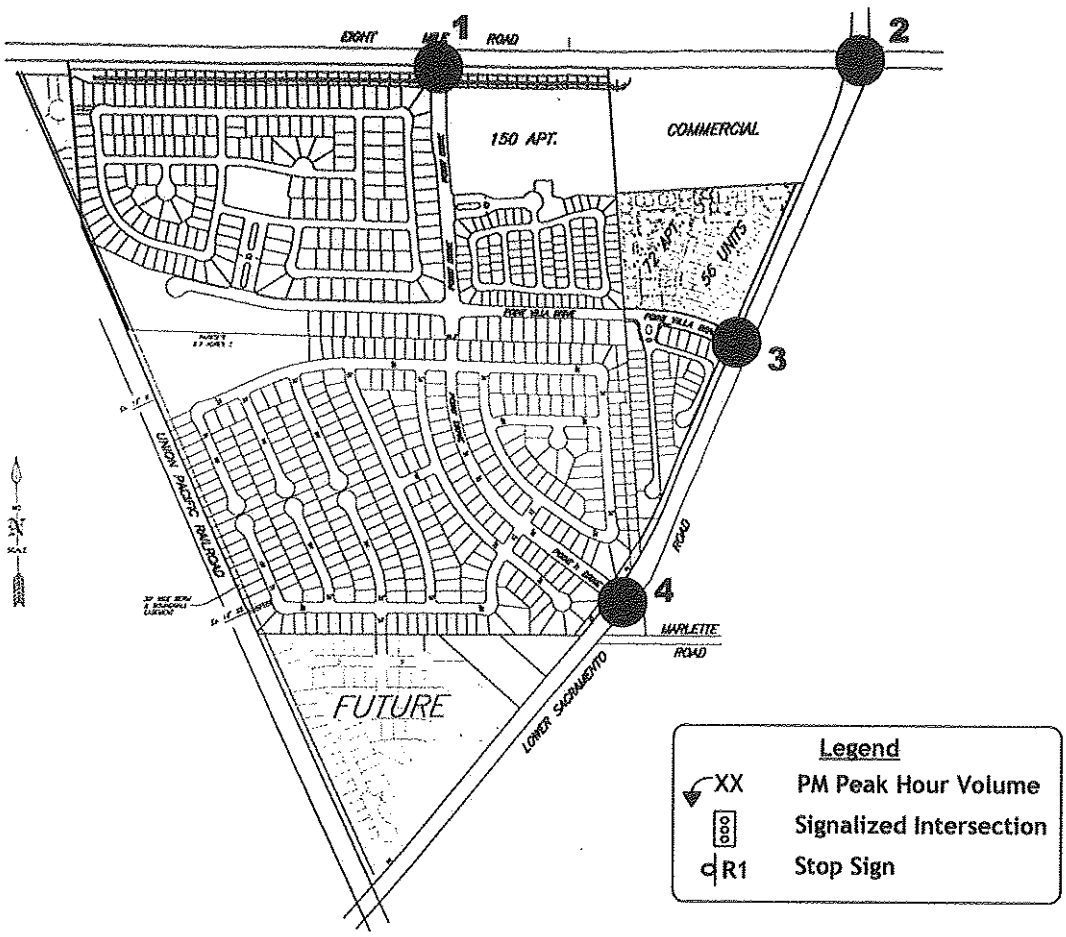
TABLE 7
PROJECT TRIP DISTRIBUTION

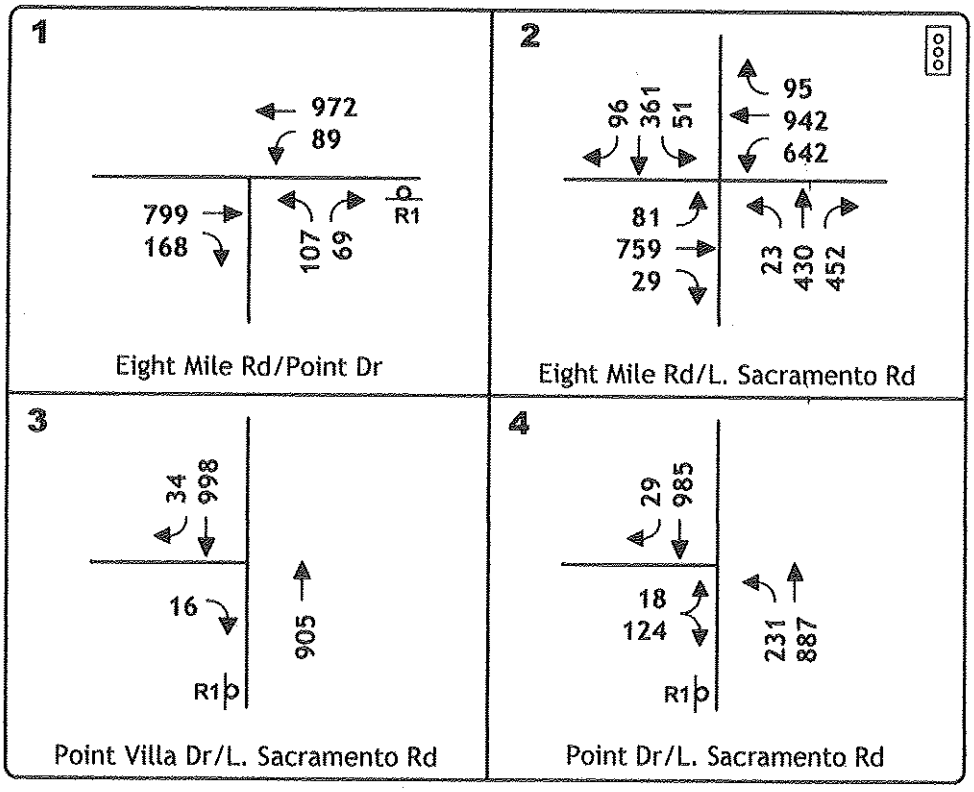
Direction	Route	Percentage
North	Lower Sacramento Road	10 %
East	Eight Mile Road	16 %
South	Lower Sacramento Road	42%
West	Eight Mile Road	32%
Total		**100%**

Existing Plus Approved Projects Plus Proposed North Stockton Projects Traffic Conditions

Using the trip generation rates and distribution described previously, the proposed project's trips were assigned to the adjacent street system and through the study intersections to determine the impacts resulting from development of the project. Resulting peak hour traffic volumes are presented in Figure 5.

Table 8 presents the resulting levels of service at the study intersections and the levels of service at study intersections. .





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EXISTING PLUS APPROVED PROJECTS PLUS
PROJECT PM PEAK HOUR TRAFFIC VOLUMES

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figure 5

TABLE 8
EXISTING PLUS APPROVED PROJECTS PLUS PROJECT
PEAK HOUR LEVELS OF SERVICE

Intersection	Control	AM Peak Hour	
		Average Delay	LOS
1. Eight Mile Rd. / Point Dr.	NB Stop	23.1 sec	C
2. Eight Mile Rd. / L. Sacramento Rd.	Signal	82.9 sec	F
3. Point Villa Dr. / L. Sacramento Rd.	EB Stop	0.1 sec	A
4. Point Dr. / L. Sacramento Rd.	EB Stop	11.1 sec	B

LOS= Level of Service
Delay for signalized intersections is presented in seconds per vehicle

Signalized Intersection. The signalized intersection of Eight Mile Road / Lower Sacramento Roads will operate at an unacceptable LOS F with the addition of project traffic to the "Existing Plus Approved Projects" background condition. Improvements necessary to reduce the impact at this location to acceptable conditions are identified in the **MITIGATION / RECOMMENDATIONS** section of this report.

Unsignalized Intersections. All unsignalized intersections will operate at acceptable levels of service with project traffic. While this finding is based on the results of the overall intersection LOS, the minor approaches at the Eight Mile Road / Point Drive and Point Drive / L. Sacramento Rd. intersection will experience LOS F conditions. Both intersections will meet MUTCD Peak Hour warrants for signalization. Improvements necessary to reduce the impact at these locations are identified in the **MITIGATION / RECOMMENDATIONS** section of this report.

CUMULATIVE TRAFFIC CONDITIONS

The text that follows describes the approach used to forecast future "Cumulative" traffic volumes. The project is consistent with the General Plan land uses on the site, and with the previous approvals for the North Stockton Projects. Trip generation for the previous land uses is with 1% of that currently being proposed. For the purposes of this study, therefore, the "Cumulative no Project" and "Cumulative plus Project" are the same, so only one cumulative analysis is presented.

Future Traffic Volume Forecasts

The "Cumulative" traffic base utilizes traffic projections obtained from the City of Stockton traffic model. Available data and methodologies used to develop traffic projections for the "Cumulative" scenario are presented in this section, along with projected p.m. peak hour traffic operating conditions.

Land Use Assumptions. Background land use for the future condition was taken directly from the City of Stockton land use file. This land use file represents the most current land uses for the City of Stockton.

Local Circulation Improvements

For the baseline cumulative analysis, several roadway circulation system improvements were assumed. These include the widening of Eight Mile Road and Lower Sacramento Road in accordance with the adopted General Plan and the Eight Mile Road Specific Plan. These documents identify Eight Mile Road and Lower Sacramento Road as major arterials. For the base case cumulative condition, it was assumed that Eight Mile Road would be a six-lane facility, while Lower Sacramento Road would be four-lanes. The intersection of these two roads was assumed to have maximum turning lanes, i.e. dual left turn lanes and separate right turn lanes on each approach. The unsignalized intersections were analyzed assuming the roadway widths as previously described.

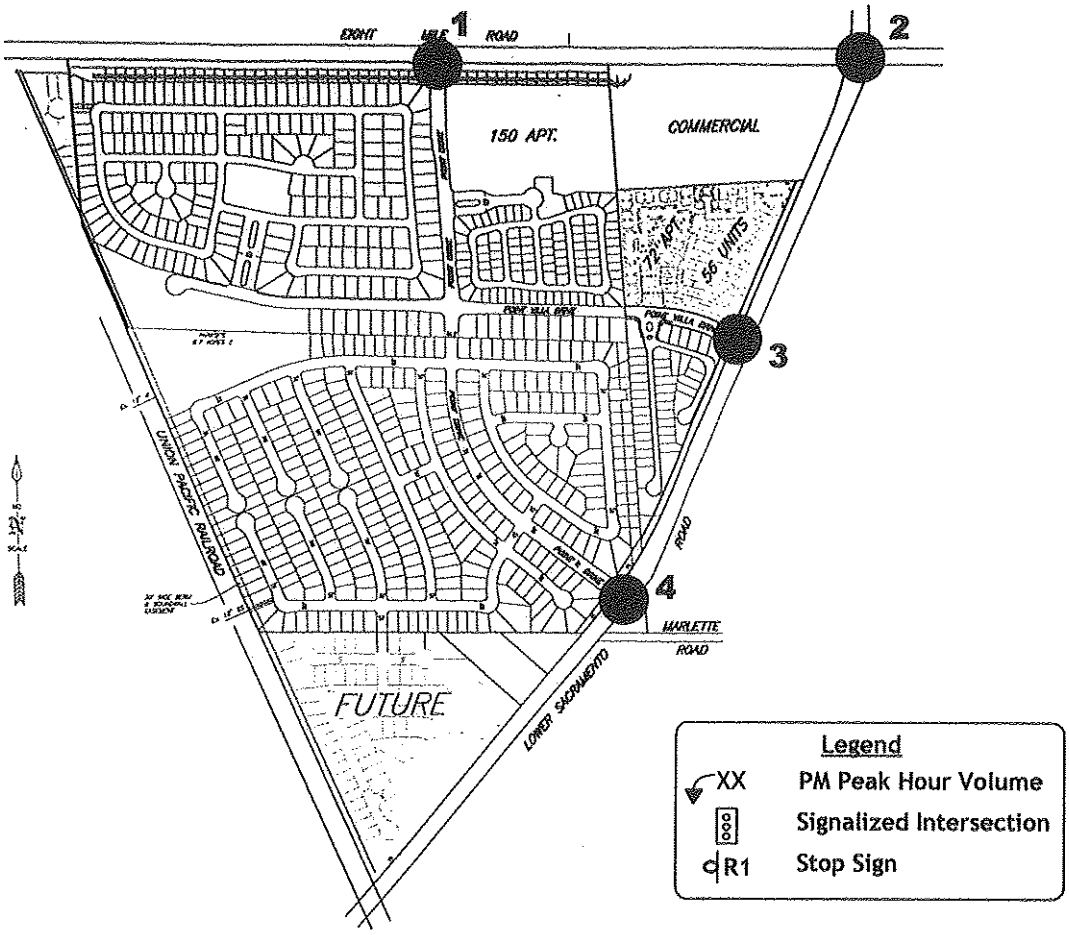
Cumulative Levels of Service

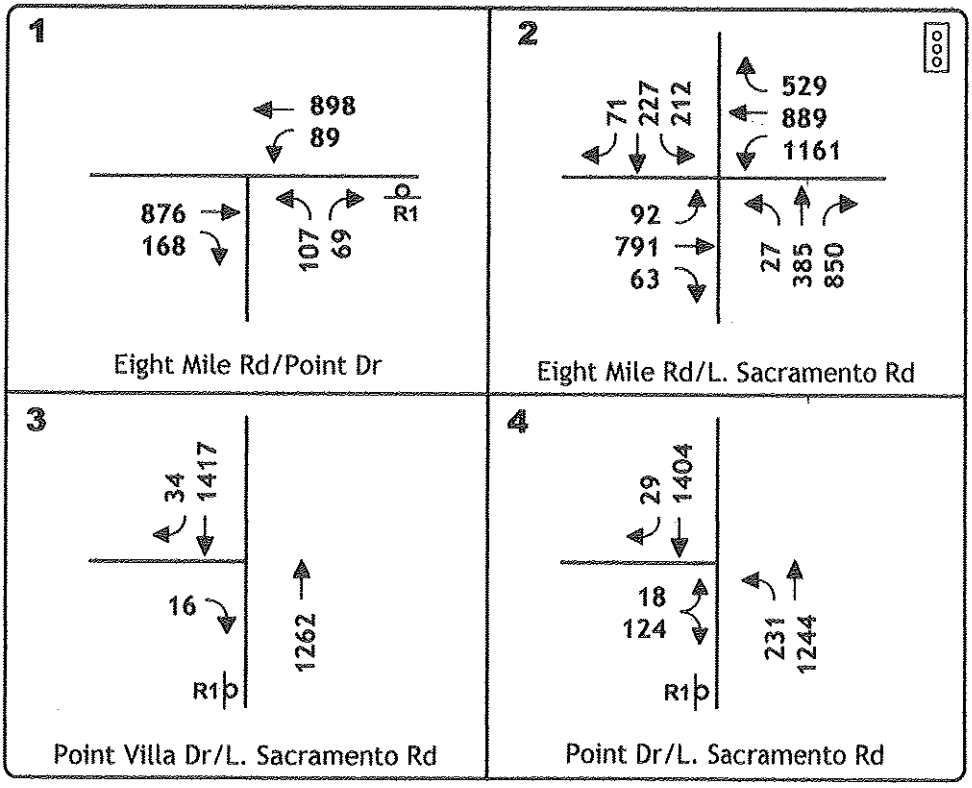
Projected level of service at the study intersections is shown in Table 9. Figure 6 displays projected p.m. peak hour traffic volumes

TABLE 9
CUMULATIVE
PEAK HOUR LEVELS OF SERVICE

Intersection	Control	PM Peak Hour	
		Average Delay	LOS
1. Eight Mile Road / Point Dr.	NB Stop	5.8 sec	A
2. Eight Mile Rd. / L. Sacramento Rd.	Signal	22.9 sec	C
3. Point Villa Dr. / L. Sacramento Rd.	EB Stop	0.1 sec	A
4. Point Dr. / L. Sacramento Rd.	EB Stop	5.9 sec	A

LOS = Level of Service
Delay for signalized intersections is presented in seconds per vehicle





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CUMULATIVE PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

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figure 6

Signalized Intersections. Under the "Cumulative" condition, the signalized intersection of Eight Mile Road and Lower Sacramento Road will operate acceptably at LOS "C

Unsignalized Intersections. Under the "Cumulative" base condition, all of the unsignalized intersections operate acceptably at LOS "C" or better. It should be noted that while the Eight Mile Road / Point Drive and Point Drive / Lower Sacramento Road intersections operate at acceptable LOS overall, the minor movements (i.e. left turn movements from minor road) will operate at Level of Service "F". These conditions would be worsened in the a.m. peak hour, since the majority of residential traffic from these projects will be outbound. The Eight Mile Road / Point Drive intersection will meet the peak hour volume warrant (MUTCD) for signalization. A preliminary assessment of the Point Drive / Lower Sacramento Road suggests that this intersection will also meet peak hour warrants for signalization during the a.m. peak hour given the outbound trips from Point Drive.

The Point Villa Drive / Lower Sacramento Road intersection will operate acceptably as a right-turn-in, right-turn-out only intersection.

MITIGATION MEASURES / RECOMMENDATIONS

The purpose of this section is to describe measures that will alleviate unsatisfactory operating conditions. For this analysis, "unacceptable" conditions are identified as those which level of service (LOS) "E or F", is experienced at a signalized intersection location. This LOS "D" threshold criterion is consistent with current City of Stockton policy.

At unsignalized intersections, the method for determining unsatisfactory operations is based on MUTCD peak hour warrants for signalization. Although motorist on a minor side street approach may experience delays characterized by LOS "E" or "F", traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. While an intersection may meet warrants for signalization, installation of a signal is not necessarily the only way to improve operations as installation of auxiliary lanes can have a significant effect on intersection operations.

Existing Plus Approved Projects Recommendation

The following describes deficiencies and recommended improvements for the "Existing Plus Project" condition without the North Stockton Project.

> **Deficiency 1** – The Eight Mile Road / Lower Sacramento Road intersection will operate at LOS "E" with an average delay of 69.9 seconds.
>
> **Recommendation – Deficiency 1:** Provide a second westbound left turn lane on Eight Mile Road. Storage length for the left turn lanes should be 350 feet each. The southbound departure lane should be widened to two lanes for 500 feet plus taper to receive the westbound vehicles from the two left turn lanes. This improvement will result in intersection LOS of D, with a delay of 44.8 seconds.

North Stockton Projects Responsibility

Existing Plus Approved Projects Plus Project

The North Stockton Project will not have a significant impact at off-site intersections that has not been previously identified and mitigated in the original *North Stockton Projects DEIR* and more recent studies for other projects. Two of the project roads intersecting with Eight Mile Road and Lower Sacramento Road will require signalization. This is based on the results of this study, and also a preliminary assessment of potential a.m. peak hour conditions. In the a.m., peak hour volumes exiting the projects (left turn movements and total approach volume) onto Eight Mile Road and Lower Sacramento Road will be significantly higher that in the p.m. peak hour. Additional study of these intersection with City staff should be considered before a final decision for signalization of Eight Mile Road / Point Drive and Point Drive / Lower Sacramento Road. Any signalization on Eight Mile Road should be consistent with the Eight Mile Specific Plan, or if not, will require an amendment to that document.

EPAP plus Project Impact – 1: The intersection of Eight Mile Road and Point Drive is anticipated to meet signal warrants under EPAP Plus conditions.

Mitigation Measure EPAP plus Project – 1: Signalize the intersection. Provide separate northbound left and right turn lanes and an exclusive westbound left turn lane. The eastbound left turn lane should be 75 feet plus taper for storage, and the northbound left turn lane should be 150 feet plus storage. The resulting LOS with signalization would be A, with an overall delay of 7.0 seconds.

EPAP plus Project Impact – 2: The intersection of Lower Sacramento Road and Point Villa Drive is anticipated to meet signal warrants under EPAP Plus Project conditions.

Mitigation Measure EPAP plus Project – 2: Signalize the intersection. Provide separate eastbound left and right turn lanes and an exclusive northbound left turn lane. The northbound left turn lane should be 150 feet plus taper for storage, and the eastbound left turn lane should be 75 feet plus storage. The resulting LOS with signalization would be A, with an overall delay of 7.7 seconds

Cumulative Conditions

The project would require no additional improvements to the area roadway system beyond those identified as part of the current General Plan base, and the specific improvements identified for the EPAP Plus Project condition.

A fair share allocation was prepared for the project for the Eight Mile Road / Lower Sacramento Road intersection, and all off-site intersections analyzed in the original *North Stockton Projects DEIR*. The fair share was determined by identifying the percentage of total intersection traffic from each of the 3 separate North Stockton Projects (Elderberry, Elkhorn Point, and Woodside) that was

contributing to the cumulative condition. Table 10 depicts the fair share allocations by project at the DEIR intersections. Intersections not listed had less that a one percent contribution by each project. A calculation spreadsheet is provided in the Appendix.

TABLE 10
PROJECT FAIR SHARE CONTRIBUTION TO DEIR INTERSECTIONS
CUMULATIVE PM PEAK CONDITIONS

Intersection	Percent Contribution		
	Elkhorn Point	Elderberry	Woodside
Eight Mile Rd. - L. Sacramento Rd.	3%	1%	2%
Eight Mile Road – I-5 SB Ramp	3%	1%	2%
Eight Mile Rd. – I-5 NB Ramp	4%	1%	3%
Eight Mile Rd. – Thornton Rd.	5%	1%	4%
Eight Mile Rd. – Davis Rd.	5%	1%	4%
Eight Mile Rd. – West Ln.	2%	0%	1%
Eight Mile Rd. – W. Frontage Rd.	3%	1%	2%
Eight Mile Rd. – E. Frontage Rd.	3%	0%	1%
L. Sacramento Rd. – Whistler Way	5%	1%	4%
L. Sacramento Rd. – Royal Oaks Dr.	3%	1%	3%
L. Sacramento Rd. – Ponce De Leon	4%	1%	3%
L. Sacramento Rd. – Hammer Ln.	2%	1%	2%

APPENDIX

KDA

EXISTING PLUS APPROVED PROJECT
NO PROJECT

North Stockton Projects
EPAP
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Eight Mile/Point Drive

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	0 1		0 0	0 0 0		0 0	1 0 1		1 0	1 0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	790	0	0	972	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	790	0	0	972	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	790	0	0	972	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	0	0	0	0	790	0	0	972	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR		RT	LT - LTR		RT	LT - LTR		RT	LT - LTR		RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

North Stockton Projects
EPAP
12/14/04

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

****

Intersection #2 Eight Mile/L. Sacramento

****

Cycle (sec): 100 Critical Vol./Cap. (X): 1.111
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 69.9
Optimal Cycle: 180 Level Of Service: E

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1	0	1	1 0 1	0	1	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	23	426	438	51	345	57	51	719	20	604	892	95
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	426	438	51	345	57	51	719	20	604	892	95
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	23	426	438	51	345	57	51	719	20	604	892	95
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	426	438	51	345	57	51	719	20	604	892	95
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	23	426	438	51	345	57	51	719	20	604	892	95
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	1.00	0.95	0.99	0.99
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.03	1.00	0.90	0.10
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	1841	51	1805	1693	180
Capacity Analysis Module:												
Vol/Sat:	0.01	0.22	0.27	0.03	0.18	0.04	0.03	0.39	0.39	0.33	0.53	0.53
Crit Moves:		****		****				****		****		
Green/Cycle:	0.01	0.20	0.50	0.03	0.21	0.25	0.03	0.35	0.37	0.30	0.62	0.64
Volume/Cap:	0.86	1.11	0.54	1.11	0.86	0.14	0.85	1.11	1.07	1.11	0.85	0.82
Delay/Veh:	160.9	119	17.7	215.9	54.1	29.7	113.8	102	84.7	107.6	21.4	17.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	160.9	119	17.7	215.9	54.1	29.7	113.8	102	84.7	107.6	21.4	17.8
HCM2kAvg:	2	22	9	4	13	1	4	36	33	31	27	24

****

North Stockton Projects
EPAP
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #3 Point Villa/L. Sacramento

****

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0 0		0 0 1	0 1		0 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	0	887	0	0	969	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	887	0	0	969	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	887	0	0	969	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	887	0	0	969	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

North Stockton Projects
EPAP
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #4 Point/L. Sacramento

****

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 0		0 0 0	1 0		0 0 1!	0 0		0 0 0	0 0	
Volume Module:												
Base Vol:	0	887	0	0	969	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	887	0	0	969	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	887	0	0	969	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	887	0	0	969	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

CUMULATIVE CONDITION

North Stockton Projects
Cumulative
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Eight Mile/Point Drive

****

Average Delay (sec/veh): 5.8 Worst Case Level Of Service: F[67.2]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	0 1		0 0	0 0 0		0 0	3 0 1		1 0	3 0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	867	0	0	898	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	867	0	0	898	0
Added Vol:	107	0	69	0	0	0	0	9	168	89	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	0	69	0	0	0	0	876	168	89	898	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	0	69	0	0	0	0	876	168	89	898	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	107	0	69	0	0	0	0	876	168	89	898	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1353	xxxx	292	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1044	xxxx	xxxxx
Potent Cap.:	144	xxxx	710	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	674	xxxx	xxxxx
Move Cap.:	129	xxxx	710	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	674	xxxx	xxxxx
Volume/Cap:	0.83	xxxx	0.10	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.13	xxxx	xxxx
Level Of Service Module:												
Queue:	5.1	xxxx	0.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx
Stopped Del:	103.6	xxxx	10.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx
LOS by Move:	F	*	B	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		67.2			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		F			*			*			*	

North Stockton Projects
Cumulative
12/14/04

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Eight Mile/L. Sacramento

Cycle (sec): 100 Critical Vol./Cap. (X): 0.739
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 22.9
Optimal Cycle: 87 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module: PM Peak Hour												
Base Vol:	27	381	836	212	211	32	62	751	54	1123	839	529
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	381	836	212	211	32	62	751	54	1123	839	529
Added Vol:	0	4	14	0	16	39	30	40	9	38	50	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	27	385	850	212	227	71	92	791	63	1161	889	529
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	27	385	850	212	227	71	92	791	63	1161	889	529
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	385	850	212	227	71	92	791	63	1161	889	529
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	27	385	850	212	227	71	92	791	63	1161	889	529
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.53	0.06	0.06	0.04	0.03	0.15	0.04	0.33	0.17	0.33
Crit Moves:			****	****				****		****		
Green/Cycle:	0.04	0.26	0.71	0.08	0.31	0.37	0.06	0.21	0.24	0.45	0.60	0.68
Volume/Cap:	0.20	0.40	0.74	0.74	0.20	0.12	0.45	0.74	0.16	0.74	0.29	0.48
Delay/Veh:	47.4	30.6	11.3	54.6	25.7	21.1	47.1	39.9	29.9	24.7	9.9	8.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	30.6	11.3	54.6	25.7	21.1	47.1	39.9	29.9	24.7	9.9	8.1
HCM2kAvg:	1	5	17	5	3	1	2	9	2	17	4	8

North Stockton Projects
Cumulative
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Point Villa/L. Sacramento

****

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[14.9]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	0	0	0 0 2	0	1	0 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	0 1244		0	0 1388		0	0	0	0	0	0	0
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0 1244		0	0 1388		0	0	0	0	0	0	0
Added Vol:	0 18		0	0 29		34	0	0	16	0	0	0
PasserByVol:	0 0		0	0 0		0	0	0	0	0	0	0
Initial Fut:	0 1262		0	0 1417		34	0	0	16	0	0	0
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0 1262		0	0 1417		34	0	0	16	0	0	0
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Final Vol.:	0 1262		0	0 1417		34	0	0	16	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxx	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxx	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx xxxx	xxxxx	xxxx	xxxx xxxxx	xxxx	xxxx	xxxx	xxxx	709	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx xxxxx	xxxx	xxxx	xxxx	xxxx	381	xxxx	xxxx	xxxxx
Move Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx xxxxx	xxxx	xxxx	xxxx	xxxx	381	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxx	0.1	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxx	14.9	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	B	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx xxxxx	xxxx	xxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			14.9			xxxxxx		
ApproachLOS:	*			*			B			*		

North Stockton Projects
Cumulative
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #4 Point/L. Sacramento

****

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: F[95.7]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 2	0 1		1 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	0 1244	0		0 1388	0		0	0	0	0	0	0
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0 1244	0		0 1388	0		0	0	0	0	0	0
Added Vol:	231 0	0		0 16	29		18	0	124	0	0	0
PasserByVol:	0 0	0		0 0	0		0	0	0	0	0	0
Initial Fut:	231 1244	0		0 1404	29		18	0	124	0	0	0
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	231 1244	0		0 1404	29		18	0	124	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
Final Vol.:	231 1244	0		0 1404	29		18	0	124	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx		xxxxx xxxx	xxxxx		6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1433 xxxx	xxxxx		xxxx xxxx	xxxxx		2488	xxxx	702	xxxx	xxxx	xxxxx
Potent Cap.:	480 xxxx	xxxxx		xxxx xxxx	xxxxx		25	xxxx	385	xxxx	xxxx	xxxxx
Move Cap.:	480 xxxx	xxxxx		xxxx xxxx	xxxxx		15	xxxx	385	xxxx	xxxx	xxxxx
Volume/Cap:	0.48 xxxx	xxxx		xxxx xxxx	xxxx		1.16	xxxx	0.32	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	2.6 xxxx	xxxxx		xxxxx xxxx	xxxxx		2.8	xxxx	1.4	xxxxx	xxxx	xxxxx
Stopped Del:	19.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		626.0	xxxx	18.7	xxxxx	xxxx	xxxxx
LOS by Move:	C *	*		* *	*		F	*	C	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	* *	*		* *	*		*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			95.7			xxxxxx		
ApproachLOS:	*			*			F			*		

FAIR SHARE CALCULATION

PROJECT FAIR SHARE CONTRIBUTION TO DEIR INTERSECTIONS
CUMULATIVE PM PEAK CONDITIONS

Intersection	Total Volume	Elkhorn Point	Percent	Elderberry	Percent	Woodside	Percent
Eight Mile Rd. - L. Sacramento Rd.	3987	116	3%	37	1%	66	2%
Eight Mile Road – I-5 SB Ramp	3819	109	3%	25	1%	76	2%
Eight Mile Rd. – I-5 NB Ramp	3020	121	4%	28	1%	85	3%
Eight Mile Rd. – Thornton Rd.	2623	130	5%	31	1%	95	4%
Eight Mile Rd. - Davis Rd.	2894	144	5%	34	1%	106	4%
Eight Mile Rd. – West Ln.	4397	96	2%	17	0%	53	1%
Eight Mile Rd. – W. Frontage Rd.	2994	86	3%	15	1%	48	2%
Eight Mile Rd. – E. Frontage Rd.	2958	77	3%	13	0%	43	1%
L. Sacramento Rd. – Whistler Way	4068	188	5%	45	1%	169	4%
L. Sacramento Rd. – Royal Oaks Dr.	5241	170	3%	40	1%	152	3%
L. Sacramento Rd. – Ponce De Leon	3989	153	4%	36	1%	137	3%
L. Sacramento Rd. – Hammer Ln.	6065	138	2%	32	1%	123	2%

EXISTING PLUS APPROVED PROJECT
PLUS PROJECT

North Stockton Projects
EPAP
12/14/04

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Eight Mile/Point Drive

****

Average Delay (sec/veh): 23.1 Worst Case Level Of Service: F[283.4]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	0	0 1	0	0 0	0 0	0	0 0	1 0 1	1	0	1 0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	790	0	0	972	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	790	0	0	972	0
Added Vol:	107	0	69	0	0	0	0	9	168	89	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	0	69	0	0	0	0	799	168	89	972	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	0	69	0	0	0	0	799	168	89	972	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	107	0	69	0	0	0	0	799	168	89	972	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1949	xxxx	799	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	967	xxxx	xxxxx
Potent Cap.:	72	xxxx	389	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	720	xxxx	xxxxx
Move Cap.:	65	xxxx	389	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	720	xxxx	xxxxx
Volume/Cap:	1.65	xxxx	0.18	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.12	xxxx	xxxx
Level Of Service Module:												
Queue:	9.5	xxxx	0.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.4	xxxx	xxxxx
Stopped Del:	455.7	xxxx	16.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx
LOS by Move:	F	*	C	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	283.4			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Eight Mile/L. Sacramento

Cycle (sec): 100 Critical Vol./Cap. (X): 1.168
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 82.9
Optimal Cycle: 180 Level Of Service: F

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:			Ovl						Ovl						Ovl						Ovl			
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	0	1	0		1	0	0	1	0	
Volume Module:																								
Base Vol:	23		426		438		51		345		57		51		719		20		604		892		95	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	23		426		438		51		345		57		51		719		20		604		892		95	
Added Vol:	0		4		14		0		16		39		30		40		9		38		50		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	23		430		452		51		361		96		81		759		29		642		942		95	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	23		430		452		51		361		96		81		759		29		642		942		95	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	23		430		452		51		361		96		81		759		29		642		942		95	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Final Vol.:	23		430		452		51		361		96		81		759		29		642		942		95	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.95		1.00		0.85		0.95		1.00		0.85		0.95		0.99		0.99		0.95		0.99		0.99	
Lanes:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		0.96		0.04		1.00		0.91		0.09	
Final Sat.:	1805		1900		1615		1805		1900		1615		1805		1819		70		1805		1702		172	
Capacity Analysis Module:																								
Vol/Sat:	0.01		0.23		0.28		0.03		0.19		0.06		0.04		0.42		0.42		0.36		0.55		0.55	
Crit Moves:			****				****								****				****					
Green/Cycle:	0.01		0.19		0.50		0.02		0.20		0.25		0.05		0.36		0.37		0.30		0.61		0.64	
Volume/Cap:	0.93		1.17		0.56		1.17		0.93		0.23		0.90		1.17		1.12		1.17		0.90		0.87	
Delay/Veh:	198.7		141		18.4		238.4		67.7		29.9		111.6		123		105.1		128.5		27.0		21.9	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	198.7		141		18.4		238.4		67.7		29.9		111.6		123		105.1		128.5		27.0		21.9	
HCM2kAvg:	2		24		10		5		15		2		5		41		39		36		31		29	

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #3 Point Villa/L. Sacramento

****

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[17.7]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0 0		0 0 1	0 1		0 0 0	0 1		0 0 0	0 0	
Volume Module:												
Base Vol:	0	887	0	0	969	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	887	0	0	969	0	0	0	0	0	0	0
Added Vol:	0	18	0	0	29	34	0	0	16	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	905	0	0	998	34	0	0	16	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	905	0	0	998	34	0	0	16	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	905	0	0	998	34	0	0	16	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	998	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	299	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	299	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.2	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	17.7	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	C	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			17.7			xxxxxx		
ApproachLOS:	*			*			C			*		

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #4 Point/L. Sacramento

****

Average Delay (sec/veh): 11.1 Worst Case Level Of Service: F[157.2]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 0		0 0 0	1 0		0 0 1!	0 0		0 0 0	0 0	
Volume Module:												
Base Vol:	0	887	0	0	969	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	887	0	0	969	0	0	0	0	0	0	0
Added Vol:	231	0	0	0	16	29	18	0	124	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	231	887	0	0	985	29	18	0	124	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	231	887	0	0	985	29	18	0	124	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	231	887	0	0	985	29	18	0	124	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1014	xxxx	xxxxx	xxxx	xxxx	xxxxx	2349	xxxx	999	xxxx	xxxx	xxxxx
Potent Cap.:	692	xxxx	xxxxx	xxxx	xxxx	xxxxx	40	xxxx	298	xxxx	xxxx	xxxxx
Move Cap.:	692	xxxx	xxxxx	xxxx	xxxx	xxxxx	28	xxxx	298	xxxx	xxxx	xxxxx
Volume/Cap:	0.33	xxxx	xxxx	xxxx	xxxx	xxxx	0.64	xxxx	0.42	xxxx	xxxx	xxxx

Level Of Service Module:												
Queue:	1.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	12.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	135	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	1.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	7.8	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	12.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	157	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	*	*	F	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			157.2			xxxxxx		
ApproachLOS:	*			*			F			*		

APPENDIX E
200-YEAR FLOOD PROTECTION REPORT

A.R. SANGUINETTI & ASSOCIATES Consulting Civil Engineers

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TECHNICAL MEMORANDUM

January 16, 2019

To: City of Stockton – Community Development Dept.

Re: Elderberry Proposed Tentative Map
200-Year Flood Impact

Pursuant to the City's request advising the client that the application for the proposed Tentative Map is subject to Senate Bill 5's (SB5) 200-year floodplain which became effective by City Council Ordinance July 2, 2016, this memorandum shall serve as the accompanying engineering report requested.

Background:

The basis of the 200-year floodplain came from Task Order 306 (TO 306) prepared by the California Department of Water Resources (DWR) as part of the Central Valley Floodplain Evaluation and Delineation (CVFED) program, December 2014. TO 306 consisted of hydraulic modeling of levee breach scenarios for local communities and was further refined for our specific area by Peterson – Brustad, Inc. (PBI) at the request of the County of San Joaquin and City of Stockton. The PBI work converted CVFED data into functional maps that encompass the City of Stockton's 2035 General Plan. The PBI work consisted of using the CVFED model to produce GIS floodplain delineation maps which is intended to help the City and County to administer SB5 requirements. The PBI maps developed consist of water surface elevations from CVFED results, ground topography from the State LiDAR data collected in 2009, computed flood depths and areas that post processing yielded shallow areas of flooding surrounded by high ground and therefore were removed from the flood depth layer and shown as dry land in the final post-processed GIS files. The PBI published product map consist of an overall map of the area (Figure 1) and eleven (11) sub-areas with color shading to identify flood depths (Figure 2). It should be noted that the PBI Technical Memorandum (TBI-TM) clearly states that their scope of services did not include refinement of the CVFED modeling. However reference was made that existing stormwater pump stations or gravity culverts that are intended to provide some ponding relieve could yield reduced ponding if considered in future analysis. All elevations referenced were North American Vertical Datum of 1988 (NAVD88-feet).

Subsequently stakeholders of the Destinations development project located in north Stockton adjacent to the proposed Elderberry project the PBI take a deeper look into the CVFED models and consider the existing stormwater pump station, through-levee culverts and under crossings in the UPRR embankment, all of which have the potential to reduce ponding in the subject area. As supplemental Technical Memorandum was prepared PBI for the subject area, dated August 13, 2015. The results were submitted, reviewed and accepted by the City and currently are considered with land use planning or ULOP findings purposes. The revised 200-Year Floodplain Depths (revised CVFED Model) is attached hereto and is identified as Figure 3.

Project Impact:

It is our understanding that in order for certain projects to be entitled and/or permitted per the adopted City Ordinance a project finding must be determined by the local agency, in this case the City of Stockton. In making the findings the project must not be impacted by flooding greater than 3 feet in accordance with the PBI Technical Memorandum or any amendments thereto. The subsequent PBI Technical Memorandum dated August 13, 2015 reduced the impact on the surrounding area including the proposed Elderberry Tentative Map leaving only an area approximately 4,400 SF with flooding greater than 3 feet. The said Technical Memorandum more specifically shows some shading colors of grey, blue and with small area red, a triangular shaped area that is an existing hole in the ground as shown on Figure 3. The grey and blue shading are areas of no flooding or less than 3 feet of flooding respectively and do not require any site modifications or further study. However the small triangular shaped red colored area (hole in the ground) is located within the proposed Tentative Map lots 1 and 2 shown on Figure 4 will requires some site modification so that adequate findings can be made for entitlements of the project.

Site Analysis:

For the purpose of this analysis we have used the water surface contours provided in the August 13, 2015 PBI Memorandum (Figure 5) to determine the 200-Year Flood Plain Water Surface Elevations. Review of Figure 5 shows that our project lies between WSL Contour 25.2 and 25.1 and the specific location of the triangular shaped red area is approx. 750 feet west of contour 25.2. Although we are between the two WSL contours, the difference in elevations is only 0.10ft, however for the purpose of this analysis we are assuming the 200-Year WSL to be elevation 25.2. Therefore in order to be in compliance with SB5 and the City's ordinance all finish floors with in the proposed tentative map will need to be above elevation 22.2 (NVAD88) to maintain flood depth of 3 feet or less.

Our site specific analysis is based upon an existing topographical survey that was performed for the development of the property in 2005 & 2007 and subsequent spot checks in 2018 to verify that the existing topography is reasonably the same as it was when the original survey work was performed. Elevation Datum for the topographical survey work is based upon City of Stockton Bench Mark # 284, elevation 22.06 as identified in the "City of Stockton Bench Marks Elevations and Descriptions Book, April 2003 Revision", Exhibit 'A'. All spot elevations referenced are National Geodetic Vertical Datum of 1929 (NGVD29-feet). Given that the CVFED datum is different than our datum a conversion factor needs to be applied to all spot elevations shown on Figure 4. To obtain NAVD88 Datum all elevations shown need to add 2.55 feet to elevations shown.

Given project specific topographical survey work performed and the relationship to the water surface contours provided in the August 13, 2015 PBI Memorandum (Figure 5) we have determined the flood depth to vary between 4.17 – 6.81 feet in the red shaded area. As mentioned above the area of red impacts the proposed lots 1 & 2. In order for the proposed lots to be in compliance the red shaded area (Figure 4) will need to have engineered fill placed to a minimum elevation of 22.2 (NAVD88). As shown in the detail on Figure 4 a lot pad elevation design of 20.54 & 20.69, lots 1 & 2 respectively has been proposed on the site grading plan (Figure 6). Applying the datum conversion factor of +2.55 yields 23.09 & 23.24 respectively. Using the 200-Year Fllod Elevation Contour of 25.2 – 23.09 & 23.24 respectively we find the flood depth to be 2.11 and 1.96 respectively. We have also designed and reviewed all other proposed lot pads to be above elevation 22.2. Therefore we have concluded the proposed Tentative Map and its single family lots will all be in compliance with SB5 and the City's adopted ordinance.