

**DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT**

**CITY OF FRESNO
WESTLAKE DEVELOPMENT PROJECT**

April 2013



Quad Knopf

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**City of Fresno
Westlake Development Project**

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TABLE OF CONTENTS

Executive Summary

Introduction.....	ES-1
Procedures.....	ES-1
Project Description and Location.....	ES-2
Potential Areas of Concern and Issues to be Resolved.....	ES-4
Alternatives to the Project.....	ES-4
Unavoidable Significant Environmental Effects	ES-6
Summary of Impacts and Mitigation Measures	ES-8

Chapter One - Introduction

1.1 Overview of the CEQA Process	1-1
1.2 Scope of the EIR	1-4
1.3 Organization of the EIR	1-8
1.4 Documents Incorporated by Reference.....	1-10
1.5 Documents Prepared for the Project	1-11
1.6 Review of the Draft EIR	1-11
1.7 Final EIR Certification.....	1-12
1.8 Mitigation Monitoring	1-12
1.9 Distinction Between Review of Environmental Issues and Project Merits	1-13

Chapter Two - Project Description

2.1 Project Location	2-1
2.2 Project Objectives	2-1
2.3 Project Description.....	2-4
2.4 Environmental Setting	2-19

Chapter Three – Settings, Impacts and Mitigation Measures

3.1 Aesthetics.....	3.1-1
3.2 Agricultural Resources.....	3.2-1
3.3 Air Quality	3.3-1
3.4 Biological Resources	3.4-1
3.5 Cultural Resources	3.5-1
3.6 Geology and Soils.....	3.6-1
3.7 Hazards and Hazardous Materials	3.7-1
3.8 Hydrology/Water Supply/Water Quality	3.8-1
3.9 Land Use and Planning	3.9-1
3.10 Noise	3.10-1
3.11 Population and Housing.....	3.11-1
3.12 Public Services.....	3.12-1

3.13	Recreation	3.13-1
3.14	Transportation/Traffic	3.14-1
3.15	Utilities.....	3.15-1
3.16	Greenhouse Gas Emissions and Global Climate Change	3.16-1

Chapter Four – Evaluation of Alternatives

4.1	Introduction.....	4-1
4.2	Alternatives Considered and Rejected During the Scoping/Project Planning Process	4-4
4.3	Alternatives Selected for Analysis.....	4-5
4.4	Environmentally Superior Alternative	4-24

Chapter Five – Cumulative Impacts

	Introduction.....	5-1
5.1	Cumulative Impacts Analysis	5-1

Chapter Six – Other CEQA Requirements

6.1	Significant Unavoidable Environmental Effects	6-1
6.2	Significant Irreversible Environmental Changes	6-3
6.3	Irreversible Changes to the Environment	6-4
6.4	Growth Inducing Impacts	6-4
6.5	Effects Not Found to be Significant.....	6-6
6.6	Energy Conservation.....	6-6

Chapter Seven – Impacts Found to be Less than Significant

7.1	Assessment in the Initial Study.....	7-1
7.2	Impacts Found to be Less than Significant in the Initial Study	7-1
7.3	Impacts Found to be Less than Significant in the EIR.....	7-4

Chapter Eight– References

Chapter Nine – List of Preparers

Appendices (under separate cover)

Appendix A	– Initial Study/Notice of Preparation
Appendix B	– Land Evaluation and Site Assessment (LESA)
Appendix C	– Air Quality Modeling
Appendix D	– Biological Evaluation
Appendix E	– Cultural Resources Study
Appendix F	– Phase I Environmental Site Assessment

- Appendix G – Water Supply Assessment
- Appendix H – Noise Assessment
- Appendix I – Traffic Impact Study
- Appendix J – Fresno Metropolitan Flood Control District Policy, Private Lakes
- Appendix K – Public Service Providers Response Letters
- Appendix L – Public Utility Will Serve Letters
- Appendix M – Electrical Energy Usage

LIST OF TABLES

Table No.	Title	Page No.
ES-1	Summary of Potentially Significant Impacts, Proposed Mitigation Measures, and Level of Significance After Mitigation.....	ES-9
ES-2	Summary of Required Intersection Mitigation Measures	ES-53
ES-3	Summary of Required Road Segment Mitigation Measures	ES-54
1-1	NOP Comment Letters.....	1-4
2-1	Summary of Project Phasing.....	2-5
2-2	Existing and Proposed Project Area Land Use Designations and Zoning.....	2-10
3.1-1	Proposed Zoning	3.1-6
3.2-1	Fresno County Agricultural Economy	3.2-9
3.2-2	Fresno County Agricultural Commodity Summary (2010)	3.2-9
3.2-3	Fresno County Important Farmland Summary	3.2-11
3.2-4	Land Capability Classification.....	3.2-13
3.2-5	California LESA Model Scoring Thresholds.....	3.2-17
3.2-6	Land Evaluation and Site Assessment Model Scoring Summary.....	3.2-19
3.3-1	Federal and State Ambient Air Quality Standards.....	3.3-3
3.3-2	Current Attainment Designations	3.3-6
3.3-3	2008 Fresno County Emissions Inventory	3.3-20
3.3-4	Air Quality Monitoring Summary	3.3-22
3.3-5	Construction Phasing Assumptions - Westlake Development Project	3.3-32
3.3-6	Air Pollutant Emissions (Tons/Year).....	3.3-34
3.3-7	Mitigated Air Pollutant Emissions (Tons/Year)	3.3-37
3.3-8	Carbon Monoxide Emissions (Tons/Year)	3.3-44
3.3-9	Carbon Monoxide Concentrations at Intersections.....	3.3-46
3.3-10	Fresno Air Quality Element Policies	3.3-48
3.3-11	Master EIR Mitigation Measures Consistency	3.3-52
3.3-12	Cancer Risks During Operation	3.3-58
3.3-13	Screening Levels for Potential Odor Sources	3.3-58
3.4-1	Plant and Animal Species Observed During the Field Surveys of the Westlake Development Project.....	3.4-6
3.4-2	Special-Status Species Potentially Present on the Project Site.....	3.4-7
3.6-1	Fault Summary.....	3.6-7
3.6-2	Modified Mercalli Intensity Scale	3.6-8
3.6-3	Soil Descriptions for the Project Site.....	3.6-11
3.9-1	Existing Project Area Land Use, Zoning Densities 2025 Fresno General Plan and County Zoning.....	3.9-7
3.9-2	Proposed Project Site Amendments to the 2025 Fresno General Plan and West Area Community Plan; Densities	3.9-20
3.9-3	Summary of General Plan Amendment	3.9-29
3.9-4	Tentative Tract Map No. 5915 Densities	3.9-31
3.9-5	Consistency with City of Fresno General Plan Land Use and Zone Districts.....	3.9-32

3.9-6	General Plan Consistency Analysis	3.9-33
3.9-7	West Area Community Plan Consistency Analysis	3.9-57
3.9-8	Consistency with State Law for Annexation	3.9-60
3.10-1	Activity Categories and Noise Abatement Criteria (NAC)	3.10-3
3.10-2	Groundborne Vibration Exposure Standards	3.10-5
3.10-3	Maximum Allowable Noise Exposure Transportation Noise Sources	3.10-6
3.10-4	Maximum Allowable Noise Exposure - Stationary Noise Sources	3.10-8
3.10-5	Maximum Allowable Noise Exposure from Transportation Noise Sources ..	3.10-8
3.10-6	City of Fresno Incremental Noise Impact Criteria for Noise-Sensitive Uses	3.10-9
3.10-7	Exterior Noise Standards	3.10-10
3.10-8	Noise Levels and Human Response.....	3.10-13
3.10-9	Construction Equipment Noise Emissions and Usage Factors	3.10-14
3.10-10	Response to Groundborne Vibration	3.10-15
3.10-11	Vibration Source Levels for Construction Equipment.....	3.10-16
3.10-12	Summary of Ambient Noise Level Measurements Westlake Development Project.....	3.10-19
3.10-13	Summary of Existing Traffic Noise Exposure (2011) Westlake Development Project.....	3.10-20
3.10-14	Construction Noise Impacts at Nearby Receptors	3.10-25
3.10-15	Distance to DNL Contours - Cumulative (2030) Conditions Westlake Development Project.....	3.10-26
3.10-16	Summary of Traffic Noise Impacts Westlake Development Project.....	3.10-29
3.11-1	Population, Housing, and Employment Characteristics (2012).....	3.11-8
3.11-2	City of Fresno Historic Population Growth	3.11-9
3.11-3	City of Fresno Historic Housing Growth.....	3.11-9
3.11-4	City of Fresno and Sphere of Influence Population Growth Projections	3.11-10
3.11-5	City of Fresno Regional Housing Needs Allocation.....	3.11-11
3.11-6	Project-Related Population Growth	3.11-13
3.11-7	Growth Projections	3.11-13
3.11-8	Existing Project Area Land Use, Zoning Densities - 2025 Fresno General Plan and County Zoning.....	3.11-14
3.12-1	CUSD Enrollment 1996-97 to 2011-12	3.12-13
3.14-1	Level of Service Characteristics for Unsignalized Intersections	3.14-16
3.14-2	Level of Service Characteristics for Signalized Intersections	3.14-16
3.14-3	Level of Service Characteristics for Roadways	3.14-17
3.14-4	Minimum Acceptable Intersection Levels of Service.....	3.14-19
3.14-5	Minimum Acceptable Road Segment Levels of Service	3.14-20
3.14-6	Volume Thresholds for Transitioning Roadway Levels of Service.....	3.14-23
3.14-7	Volume Thresholds for Urban Roadway Levels of Service	3.14-23
3.14-8	Intersection Analysis Summary - Existing Conditions	3.14-28
3.14-9	Queuing Analysis Summary - Existing Conditions	3.14-29
3.14-10	Road Segment Analysis Summary - Existing Conditions	3.14-31
3.14-11	Project Phase 1 Trip Generation	3.14-32
3.14-12	2016 Project Trip Generation.....	3.14-33
3.14-13	2021 and 2030 Full Buildout Project Trip Generation	3.14-33

3.14-14	Summary of Required Intersection Mitigation Measures	3.14-73
3.14-15	Summary of Required Road Segment Mitigation Measures	3.14-74
3.15-1	Projected Water Demands.....	3.15-16
3.15-2	Projected Normal Water Supply	3.15-16
3.15-3	Single Dry Year Comparison.....	3.15-17
3.15-4	Multiple Dry Year Comparison	3.15-17
3.15-5	Wastewater Generation.....	3.15-21
3.15-6	Project Energy Demand	3.15-25
3.16-1	California Greenhouse Gas Emissions Inventory 2003-2009.....	3.16-20
3.16-2	Greenhouse Gases.....	3.16-22
3.16-3	Electricity Emission Factors	3.16-28
3.16-4	Construction Greenhouse Gas Estimates	3.16-33
3.16-5	2020 Operational Business as Usual Greenhouse Gas Estimates.....	3.16-34
3.16-6	Consistency with Applicable Scoping Plan Reduction Measures	3.16-38
3.16-7	Consistency with General Plan Objectives and Policies.....	3.16-40
4-1	Proposed Project vs. Project Alternatives Comparison of Environmental Impacts	4-25
6.6-1	Electricity Savings Projected from the 2008 Standards.....	6-10
6.6-2	Demand Savings Projected from the 2008 Standards.....	6-11
6.6-3	Construction Fuel Consumption	6-13
6.6-4	Daily Vehicle Fuel Consumption.....	6-14
7-1	Impacts Found Not to be Significant	7-4

LIST OF FIGURES

Figure No.	Title	Page No.
2-1	Regional Map.....	2-2
2-2	Vicinity Map	2-3
2-3	Existing General Plan Designations.....	2-6
2-4	Approved Rezoning on a Portion of Westlake Development Project Site	2-7
2-5	Westlake Development Project Proposed Land Uses.....	2-8
2-6	Proposed Westlake Development Project Major Street Layout	2-9
2-7	Lake Cross Section (Conceptual).....	2-11
2-8	Westlake Project Watershed Boundary	2-12
2-9	Preliminary Basin Design	2-13
3.1-1	Aerial View of the Project Site and Vicinity	3.1-11
3.1-2	Photographs of Project Site and Surrounding Uses	3.1-12
3.1-3	Photographs of Project Site and Surrounding Uses	3.1-13
3.2-1	Farmland Mapping and Monitoring Program	3.2-12
3.2-2	Soils Map	3.2-14
3.2-3	Williamson Act Lands	3.2-16
3.3-1	California Air Basins	3.3-17
3.4-1	CNDDDB Map	3.4-15
3.6-1	Topographic Map.....	3.6-5

3.9-1	Existing General Plan Land Use Designations	3.9-8
3.9-2	Existing Zoning.....	3.9-9
3.9-3	Approved Rezoning on Portion of Westlake Development Project Site	3.9-10
3.9-4	Westlake Development Project Proposed Land Uses.....	3.9-21
3.9-5	Tentative Tract Map No. 5915.....	3.9-30
3.9-6	Annexation Map.....	3.9-62
3.10-1	Project Site Plan and Noise Monitoring Sites.....	3.10-18
3.14-1	Study Intersections and Road Segments	3.14-5
3.14-2	Existing Lane Configurations and Intersection Control	3.14-25

EXECUTIVE SUMMARY

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Introduction

Under the California Environmental Quality Act (CEQA), when discretionary projects are undertaken by public agencies, an Environmental Impact Report (EIR) is required if the Lead Agency determines that the project may cause a significant and unavoidable environmental impact. This was concluded by the Initial Study/Notice of Preparation (NOP) prepared and published for this project in November, 2007 (Appendix A). Comments received during the Initial Study/NOP circulation period follow the NOP in Appendix A.

The purpose of an EIR is to provide full disclosure of the potentially significant environmental effects of the proposed project to the public and their decision-makers and explore means to mitigate (i.e., reduce, avoid, or eliminate) those impacts through special mitigation measures or alternatives to the project. CEQA intends that preparation of an EIR will be a public process that provides meaningful opportunities for public input with regard to environmental effects.

Section 15123 of the *CEQA Guidelines* requires that an EIR contain a brief summary of the proposed action and its consequences. This Executive Summary is required to identify the following:

- 1) Each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect;
- 2) Areas of controversy known to the Lead Agency including issues raised by agencies and the public; and
- 3) Issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

Procedures

Pursuant to Section 15168 of the Guidelines for Implementation of the California Environmental Quality Act, 14 California Code of Regulations, Section 15000 et. seq. (CEQA Guidelines), a Program EIR is prepared for a series of related actions that can be characterized as one large project.

As Lead Agency, the City of Fresno has determined that a Program EIR should be prepared for the proposed project and related actions outlined in Chapter Two in accordance with the requirements of CEQA. The City of Fresno intends to streamline the CEQA process for subsequent project proposals, as may be allowable, for permit applications associated with the project which are determined to be consistent with, and covered by, this Westlake Development Program EIR.

Project Description and Location

PROJECT DESCRIPTION

Granville at Westlake, Inc. (the project Applicant) is proposing to develop a master planned 460 acre project with residential and commercial uses developed around a man-made private lake. The project will consist of approximately 2,600 residential units and up to 295,000 square feet of community and neighborhood commercial buildings. At full buildout, the project would accommodate 7,956 residents (based on a 3.06 person per household ratio). This is the maximum population figure utilized for environmental analysis in this EIR; it is based on the latest available census data. The project will consist of approximately 111 acres of Medium Low Density Residential, 196 acres of Medium Density Residential (approximately 12 acres of which is planned for an elementary school at the northwest corner of Grantland and Dakota Avenue), 34 acres of Medium High Density Residential, 27 acres of Neighborhood/Community Commercial, and 92 acres open space consisting of the 55 acre lake feature, 17 acres of roadway and 20 acres of open space.

Generally, the project will be built out in a north to south pattern with excavation and construction of the lake occurring during initial development (see the description of the lake in Chapter Two). Commercial development will occur as build-out of the residential portions of the project occur. Smaller commercial entities that would serve a smaller population may be built out earlier than larger commercial entities that require a larger population base. Specific tenants and timing of commercial build-out have not yet been determined. However, in order to provide a program-level analysis of environmental impacts, phasing assumptions were developed to provide a worst-case scenario (a faster than anticipated construction schedule). See Chapter Two for a full project description. The phasing assumptions are as follows:

Summary of Project Phasing

Year of Completion	Single Family	Multi-Family	Commercial	Lake
2016	648 units	-	-	Constructed and filled
2018	703 units	274 units	147,500 sq. ft.	-
2020	702 units	273 units	147,500 sq. ft.	-
Total:	2,053 units	547 units	295,000 sq. ft.	-

PROJECT LOCATION

The proposed project is located adjacent to the Fresno City limits, in north-central Fresno County (reference Figures 2-1 and 2-2). The project site is located west of State Route 99 and is bounded by West Gettysburg Avenue, West Shields Avenue, North Garfield Avenue, and North Grantland Avenue. More specifically, the project site is located on the west side of Grantland adjacent to the Fresno City limits and across the street from the Deran Koligian Education Center, a facility owned and operated by the Central Unified School District.

The project site is within the adopted Sphere of Influence (SOI) of the City of Fresno. The project site is outside the corporate limits of the City of Fresno, but has been planned for a variety of urban

uses in the 2025 General Plan and portions have been pre-zoned by the City. The Project will be proposed by the applicant for annexation approval by the Fresno County Local Agency Formation Commission.

PROPOSED ENTITLEMENTS

This Program EIR will be used for approval of the following discretionary entitlements/actions necessary for the project:

- The annexation of approximately 460 acres from Fresno County into the City of Fresno (LAFCo);
- A General Plan Amendment changing some of the land use designations (reference Figures 2-3 and 2-5 and Table 2-2);
- Pre-zoning (reference Figure 2-4 and Table 2-2). Pre-zoning is required to be completed prior to submittal of an annexation application; it will take effect upon annexation;
- A request for approval of the vesting tentative tract map for the broad scale division of the property into 28 residential, commercial, and open space/recreation parcels. (These broad scale parcels will be further subdivided with subsequent multiple tentative and final maps during the pre-construction phase of the project and filed at a later date);
- A Conditional Use Permit (CUP) (to be filed at a later date). The CUP will help define the theme of Westlake and provide details of project design and development standards;
- A Development Agreement to vest development rights, and create mutual obligations and certainties for the Westlake project. The Development Agreement will provide for the orderly development of identified residential units within the project area over the course of a pre-determined buildout schedule. It will also address infrastructure and amenities and will present realistic construction projections. The Development Agreement will provide certainty with respect to cost estimates for proposed mitigation measures and project development fees. Community benefits will be identified. Until such time as the Development Agreement is finally negotiated, all terms, conditions and other components of the Development Agreement will not be fully known. In the event any aspect of the Development Agreement leads to potentially significant environmental effects not otherwise considered in this DEIR, additional CEQA review will be required;
- Approval to relocate and revise the shape of designated drainage and recharge basin 'CD' (see Figures 2-8 and 2-9) and revise drainage district boundaries for drainage basins 'CD' and 'CG';
- Detachment from the Kings River Conservation District; and
- Detachment from the North Central Fire Protection District.

Potential Areas of Concern and Issues to be Resolved

A public information/scoping meeting was held on December 17, 2007 to receive comments on what should be included in the EIR. Based on the Initial Study/NOP and comments received during the scoping process from public agencies, community organizations, and interested individuals, the following were identified as potential areas of concern:

- The elimination of two east-west major streets between Garfield and Grantland Avenues;
- Exceedance of the SJVAPCD's significance thresholds for criteria pollutants;
- Accommodation of new students generated by the proposed project by CUSD schools;
- Loss of Important Farmlands to the region;
- Potential noise impacts to sensitive receptors from the operation of construction equipment;
- Proper abandonment of water wells and potential contamination of groundwater;
- Decreased traffic LOS in the vicinity;
- Proper piping of canals on the project site and easements for future access;
- Discharges into FID canals and proper disposal of storm water;
- Potential insect nuisance associated with the manmade lake if precautions aren't taken;
- The creation of a City peninsula and whether or not that is considered "orderly growth and development" or "urban sprawl"; and
- The creation of an artificial 55 acre lined lake strictly for recreational purposes.

Alternatives to the Project

The California Environmental Quality Act (CEQA) requires that an EIR include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6). See Chapter Four - Evaluation of Alternatives. The following alternatives have been determined to represent a reasonable range of alternatives (plus the no project alternatives) that have the potential to feasibly or partially attain objectives of the project but avoid or substantially lessen any of the significant effects of the project:

1. No Project/No Build – This alternative analyzes impacts if the proposed project site were to remain in its present condition (agricultural land, periodically farmed but currently fallow). In

comparison to the proposed project, the No Project Alternative would reduce impacts to aesthetics, biological resources, cultural resources, geology and soils, public services, and utilities and services systems. Impacts to hydrology/water supply/water quality and to hazards and hazardous materials would differ but are estimated to be less than those of the proposed project. Significant project impacts to agricultural resources, air quality, transportation/traffic, noise and global climate change would be eliminated. Impacts to land use planning would be greater. This alternative substantially reduces the environmental impacts in comparison to the proposed project, and eliminates all significant and unavoidable impacts.

2. No Project/No Plan Amendment – This alternative analyzes impacts that could occur as identified under the existing General Plan. In comparison to the proposed project, this No Plan Amendment Alternative could provide non-substantial reductions to impacts to hazards and hazardous materials, land use and utilities, and transportation/traffic. It would potentially increase aesthetic and recreation impacts. All other impacts would be unchanged. It does not eliminate any project-related significant and unavoidable impacts.
3. Reduced Intensity – This alternative analyzes development of the project site with reduced residential intensities and a correspondingly reduced commercial area and community center. It is assumed for purposes of analysis that, with a 50% reduction, the buildout population would be 4,017, the buildout commercial area would be 13 1/2 acres; the drainage basin site area would remain the same in order to serve potential future development in the basin's drainage-contributing area. The lake acreage, and the open space would remain the same, as would the project site. In comparison to the proposed project, this Reduced Intensity Alternative could, non-quantitatively, reduce impacts to aesthetics/visual resources, air quality, hydrology/water supply/water quality, noise, transportation and traffic, recreation, public services, utilities and greenhouse gases/global climate change. Impacts to agricultural resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials and land use would be the same. Impacts to population and housing would be increased. It does not eliminate any project-related significant and unavoidable impacts.
4. Increased Intensity – This alternative analyzes development of the project with increased intensity in a smaller footprint. It has been assumed that the project would be constructed on the northerly 307 acres (the northerly 2/3) of the project site leaving the southerly 153 acres in periodic agricultural production. A similar total population would accommodate 8,034 persons in approximately 2,648 units. The floor area ratio in the commercial area would have to be increased to accommodate the neighborhood commercial needs of the project population. The open space/community center facilities would be redesigned within the reduced available area. The school site allocation of 12 acres remains unchanged. In comparison to the proposed project, this Increased Intensity Alternative could, non-quantitatively, reduce impacts to agricultural resources, biological resources, cultural resources, geology and soils, hydrology/water supply/water quality, and population and housing. Impacts to air quality, hazards and hazardous materials, public services, utilities, and greenhouse gases will be the same. Increases will occur to aesthetics/visual resources, noise, recreation, land use and transportation and traffic impacts. The alternative does not eliminate any significant and unavoidable impacts of the project.

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. Since the No Project/No Build Alternative would eliminate each of the significant, unavoidable impacts of the proposed project, it is environmentally superior. Among the three other alternatives analyzed, the No Project/No Plan Amendment Alternative would be considered an environmentally superior alternative. It is, however, another type of No Project Alternative. Accordingly, the environmentally superior development alternative is the Reduced Intensity Alternative; it has less environmental effect than either the Proposed Project or the Increased Intensity Alternative (See Chapter Four for a full analysis on Alternatives).

Unavoidable Significant Environmental Effects

The project impact analysis, as detailed in Chapter 3 of this DEIR, concluded that the following impacts at the project level would remain significant, after mitigation, for the proposed project:

Aesthetics:

Impact #3.1.2 - Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view.

Agricultural Resources:

Impact #3.2.1 – Conversion of 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 uses.

Air Quality:

Impact #3.3.1 – Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Impact #3.3.3 – Conflict with or obstruct implementation of any applicable air quality plan.

Impact #3.3.4 – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Noise:

Impact #3.10.1 – 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. Offsite Roadway Traffic Noise.

Impact #3.10.3 - Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Transportation/Traffic:

Impact #3.14.1 – 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.

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.

The cumulative impact analysis, as detailed in Chapter 5 of this DEIR, concluded that the following impacts at the cumulative level would remain significant, after mitigation, for the proposed project:

5.1.1 Aesthetics:

Impact #3.1.2 - Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view.

5.1.2 Agricultural Resources:

Impact #3.2.1 – Conversion of 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 uses.

5.1.3 Air Quality:

Impact #3.3.1 – Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Impact #3.3.3 – Conflict with or obstruct implementation of any applicable air quality plan.

Impact #3.3.4 – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

5.1.4 Biological Resources:

Impact #3.4.1 – Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

5.1.8 Hydrology and Water Quality:

Impact #3.8.2(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).

5.1.10 Noise:

Impact #3.10.1 – 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. Offsite Roadway Traffic Noise.

Impact #3.10.3 - Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

5.1.14 Transportation/Traffic:

Impact #3.14.1 – 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.

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.

5.1.15 Utilities:

Impact #3.15.4(d) - Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

Summary of Impacts and Mitigation Measures

Section 15123(b)(1) of the *CEQA Guidelines* provides that this summary shall identify each significant effect with proposed mitigation measures that would reduce or avoid that effect. This information is summarized in Table ES-1, “Summary of Potentially Significant Impacts, Proposed Mitigation Measures and Level of Significance after Mitigation”. With the exception of aesthetics, agricultural resources, air quality, noise, and transportation/traffic, all identified impacts are either less than significant in relation to identified significance threshold levels or can be mitigated to a less than significant level through recommended mitigation measures.

Table ES-1
Summary of Potentially Significant Impacts, Proposed Mitigation Measures, and Level of Significance After Mitigation

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.1 Aesthetics					
3.1.1	Have a substantial effect on a scenic vista.	N/A	Less than Significant	None are required.	N/A
3.1.2	Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view.	N/A	Significant, Unavoidable and Irreversible	None are available.	N/A
3.1.3	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	3.1.3a	Potentially Significant	A lighting plan shall be prepared and submitted to the City of Fresno for approval in conjunction with any development applications or permit applications for development within the project site. The lighting plan shall comply with all City lighting standards and the guidelines provided by the International Dark Sky Association Model Lighting Ordinance (see http://docs.darksky.org/MLO/MLO_FINAL_June2011.pdf). Night lighting shall be limited to that necessary for security, safety, and identification. Night lighting shall also be screened from adjacent residential areas and not be directed in an upward manner or beyond the boundaries of the parcel on which the development is located. Outdoor security lighting at businesses shall be controlled by timers.	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		3.1.3b		All lighting in the project area shall be shielded, directed downward and away from adjoining properties and rights-of-way. Light shields or equivalent devices shall be installed and maintained consistent with manufacturer's specifications, and shall reduce the spillage of light onto adjacent properties to less than a one-foot-candle standard as measured at the adjacent property line.	
		3.1.3c		Lighting fixtures shall be designed to produce the minimum amount of light necessary for safety purposes. All parking lot pole lights and street lights shall be fully hooded and back-shielded to prevent light spillage and glare. Signs shall not be internally lighted. When externally lighted, signs shall be lighted by hidden or screened light sources.	
		3.1.3d		The project design shall include the use of glare reducing materials, including non-reflective paints and building materials, to reduce the amount of glare created by the project structures.	
		3.1.3e		The project site landscaping shall include vegetation designed to shield adjacent properties from project-generated light and glare.	
3.2 Agricultural Resources					
3.2.1	Conversion of 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	N/A	Significant, Unavoidable and Irreversible	None are available.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	Resources Agency, to non-agricultural uses.				
3.2.2	Conflict with existing zoning for agricultural use, or a Williamson Act contract.	N/A	Less than Significant	None are required.	N/A
3.2.3	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.	3.2.3	Potentially Significant	<p>In order to reduce potential conflicts between urban and agricultural uses, the following measures shall be implemented:</p> <ul style="list-style-type: none"> ▪ Potential residents and business owners shall be notified about possible exposure to agricultural chemicals at the time of purchase/lease of property within the Westlake development. ▪ A Right-to-Farm Covenant shall be recorded on each tract map or be made a condition of each tract map to protect continued agricultural practices in the area. ▪ Potential residents and business owners shall be informed of the Right-to-Farm Covenant at the time of purchase/lease of property within the Westlake development. 	Less than Significant
3.3 Air Quality					
3.3.1	Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	3.3.1a	Potentially Significant	<p>Prior to issuance of grading permits for each development within the Westlake Development project site, the project applicant shall provide information to the City of Fresno describing the methods by which the following measures will be complied with:</p> <ul style="list-style-type: none"> ▪ Off-road equipment used onsite shall achieve a fleet average emissions equal to or less than the Tier II 	Significant and Unavoidable

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>emissions standard of 4.9 grams of NOx per horsepower hour. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards. Tier II emission standards are set forth in Section 2423 of Title 13 of the California Code of Regulations and Part 89 of Title 40 Code of Federal Regulations.</p> <ul style="list-style-type: none"> ▪ Construction equipment shall be properly maintained at an offsite location; maintenance shall include proper tuning and timing of engines. Equipment maintenance records and data sheets of equipment design specifications shall be kept on-site during construction. ▪ Onsite construction equipment shall not idle for more than 5 minutes in any one hour. ▪ During the building phase, onsite electrical hook ups shall be provided for electric construction tools including saws, drills and compressors, to eliminate the need for diesel powered electric generators. ▪ Construction workers shall be encouraged to carpool to and from the construction site. Workers shall be informed in writing and a letter shall be placed on file in the City office documenting efforts to carpool. 	
		3.3.1b		<p>Construction contracts shall include a provision that requires all architectural coatings to be zero-volatile organic compound (VOC) paints (assumes no more than 100 grams/liter of VOC) and coatings. All paints shall be applied using either high-volume low-pressure (HVLP) spray equipment or by hand application. For a list of low-VOC paints, see www.aqmd.gov/prdas/brochures/paintguide.html.</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		3.3.1c		<p>Prior to issuance of grading permits, the project proponent will provide the City of Fresno with a traffic control plan that describes in detail safe detours around the project construction site, provides temporary traffic control (i.e., flag person) during construction-related truck-hauling activities, and minimizes traffic flow interference from construction activities. The plan may include:</p> <ul style="list-style-type: none"> ▪ Advance public notice of alternative routes; ▪ Use of public transportation and satellite parking areas with a shuttle service for construction personnel; ▪ Schedule operations that affect traffic for off-peak hours; ▪ Minimize obstruction of through-traffic lanes; and <p>Provide a flag person to guide traffic properly and ensure safety at construction sites.</p>	
		3.3.1d		Construction staging and queuing areas shall not be located within 500 feet of sensitive receptors.	
		3.3.1e		The project shall utilize high albedo construction materials (Cool Paving) to increase the reflectivity of roads, driveways, and other paved surfaces. Project site plans shall indicate locations where the special paving will be installed. Standard paving materials will only be allowed in areas where technical or safety considerations (as determined by the City's Public Works Director) preclude use of the Cool Paving materials.	
		3.3.1f		Construction plans shall provide for the installation of automated lighting and thermal controls in all non-residential facilities. The City of Fresno will verify compliance during review of construction plans.	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		3.3.1g		<p>Construction plans shall include one or more of the following roofing technologies to reduce energy consumption:</p> <ul style="list-style-type: none"> ▪ High albedo and low-emissive roofs; ▪ EPA “Energy Star” approved roofing materials; and ▪ “Green Roof” Technology. 	
		3.3.1h		<p>Construction plans shall address passive energy conservation through building orientation, use of natural ventilation and shading in a way that does not compromise the thermal integrity of the building or the implementation of mitigation measure #3.3.1i. The City of Fresno will verify compliance during review of construction plans.</p>	
		3.3.1i		<p>Each development project within the Westlake Development project site shall be designed to achieve a minimum 20 percent energy efficiency above 2008 Title 24 standards. Prior to issuance of building permits, the project applicant shall provide a third-party verification to the City of Fresno demonstrating that the project achieves this energy efficiency goal.</p>	
		3.3.1j		<p>Site plans submitted to the City of Fresno shall include sidewalks and bicycle lanes appropriately sized for anticipated future pedestrian/bicycle use on all adjacent and interior roadways. Ensure that the project will provide multiple and/or direct pedestrian and/or bicycle access to adjacent, complementary land uses and throughout the project.</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		3.3.1k		Large canopy trees shall be carefully selected and located to protect the buildings from energy consuming environmental conditions, and to shade 50 percent of paved areas in commercial parking lots within 15 years. This measure reduces emissions by reducing urban heat island effect, reducing ROG emissions from parked vehicles (shading reduces temperature, which reduces seepage), and creates a more walkable environment.	
		3.3.1l		<p>Prior to issuance of building permits, a landscape plan shall be prepared and submitted to the City of Fresno for review and approval pursuant to the City’s normal planning process that provide shade trees and foliage to reduce building and surface lot heating/cooling needs, and conform to landscape standards established by the City of Fresno. The landscape plan shall comply with the State mandated Water Efficient Landscape Ordinance and shall have the following components:</p> <ol style="list-style-type: none"> 1. At least 50 percent of installed trees and shrubs shall be low-ozone forming potential (Low-OFP) and drought-tolerant species; and 2. The landscape plan shall be designed to shade 50 percent of paved surfaces within 10 years of buildout. 	
		3.3.1m		<p>Prior to approval of the final site plan for the non-residential uses that would receive five or more truck deliveries per week, the project applicant shall demonstrate that the following anti-idling measures would be implemented:</p> <ul style="list-style-type: none"> ▪ Provide available electricity hookups for trucks in the loading dock areas; ▪ Signs shall be posted in dock areas advising drivers that idling shall not occur for more than 3 minutes; and 	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		3.3.1n		<ul style="list-style-type: none"> ▪ Telephone numbers of the building facilities manager and the California Air Resources Board shall be posted on signs at truck entrances to report idling violations. <p>Prior to issuance of grading permits for each development within the Westlake Development project site, the project applicant shall demonstrate compliance with all applicable requirements of San Joaquin Valley Air Pollution Control District, Rule 9510 via the submittal of a Rule 9510 Air Impact Assessment Application (AIA) to the City of Fresno for review and approval. The AIA shall achieve a 45 percent reduction in NOx statewide average construction emissions and a 50 percent reduction in PM10 statewide average construction exhaust emissions. The AIA shall also achieve a 33-percent reduction in NOx and a 45-percent reduction in PM10 over the first 10 years of operations through the use of onsite emissions reduction measures or through the payment of offsite mitigation fees to the SJVAPCD for purchase of emission reductions. The requirements of the approved AIA shall be incorporated into the proposed project.</p>	
		3.3.1o		<p>Prior to issuance of grading permits, the project applicant will work with the San Joaquin Valley Air Pollution Control District to determine project emissions based on a more refined construction schedule and proposed construction equipment to determine if construction emissions exceed the Air District thresholds of significance after compliance with the Indirect Source Review Rule. If construction emissions exceed the Air District thresholds of significance, the applicant shall consult with the SJVAPCD to develop and implement a Feasible Implementation Plan with a goal of reducing construction emissions to below annual thresholds of 10 tons per year of ROG, 10 tons per year of NOx, and 15 tons per year of PM10. The Feasible Implementation Plan as</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>identified above shall identify offsite mitigation measures proposed to be implemented by the applicant and agreed upon by the San Joaquin Valley Air Pollution Control District to be appropriate and effective to reduce emissions. Alternatively, the Feasible Implementation Plan shall identify the mitigation fee required to be paid by the applicant based on the amount of emission reductions needed to bring the project's construction impacts below the annual thresholds. The project applicant shall provide this funding prior to the start of construction to help facilitate emission offsets that are as real-time as possible. The San Joaquin Valley Air Pollution Control District will use the funds to purchase the required emission reductions through offsite mitigation strategies. The agreement requires the San Joaquin Valley Air Pollution Control District's approval prior to receiving final grading permits from the City of Fresno. The emissions reduction agreement must be implemented in addition to the required measure to reduce construction-related diesel equipment exhaust emissions listed in Mitigation Measure #3.3.1a. Development and implementation of the emissions reduction agreement shall be fully funded by the project applicant. Preference shall be given to offsite emission reduction projects that are located in or in close proximity to the City of Fresno. The applicant shall submit documentation to the City of Fresno verifying that this has been successfully completed.</p>	
		3.3.1p		<p>Prior to issuance of building permits, the project applicant will work with the San Joaquin Valley Air Pollution Control District to determine if the project's operational emissions exceed the Air District thresholds of significance based on the incorporation of onsite mitigation measures and detailed project information. If the operational emissions exceed the Air District's thresholds of significance, the applicant shall consult with the SJVAPCD to develop and implement a</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>Feasible Implementation Plan with a goal of reducing operational emissions to below annual thresholds of 10 tons per year of ROG, 10 tons per year of NOx, and 15 tons per year of PM10. The Feasible Implementation Plan shall identify offsite mitigation measures proposed to be implemented by the applicant and agreed upon by the San Joaquin Valley Air Pollution Control District to be appropriate and effective to reduce emissions. Alternatively, the Feasible Implementation Plan shall identify the mitigation fee required to be paid by the applicant based on the amount of emission reductions needed to bring the project impacts below the annual thresholds. The San Joaquin Valley Air Pollution Control District will use the funds to purchase the required emission reductions through offsite mitigation strategies. Payment of offsite fees shall be prior to issuance of occupancy permits. The Feasible Implementation Plan requires the San Joaquin Valley Air Pollution Control District approval and verification of payment prior to receiving final occupancy permits from the City of Fresno.</p>	
		3.3.1q		<p>The project applicant shall comply to the full extent appropriate with the air quality policies of 2025 City of Fresno General Plan Amendment A-09-02 and the pertinent mitigation measures of the associated 2025 Master Plan Mitigation Measures (see Table 3.3-11).</p>	
3.3.2	Violate any air quality standard or contribute substantially to an existing or projected air quality violation associated with carbon monoxide hotspots.	N/A	Less than Significant	None are required	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.3.3	Conflict with or obstruct implementation of any applicable air quality plan.		Potentially Significant	Implement Mitigation Measures #3.3.1a through #3.3.1q.	Significant
3.3.4	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors.		Potentially Significant	Implement Mitigation Measures #3.3.1a through #3.3.1q.	Significant and Unavoidable
3.3.5	Expose sensitive receptors to substantial pollutant concentrations.	N/A	Less than Significant	None are required.	N/A
3.3.6	Exposure of a substantial number of people to sources of objectionable odors.	N/A	Less than Significant	None are required.	N/A
3.4 Biological Resources					
3.4.1	Have a substantial adverse effect, either directly or through habitat modifications, on any species	3.4.1a	Potentially Significant	Protection of burrowing owls. 1. Pre-construction surveys should be conducted to determine the presence of nesting birds if ground clearing or construction activities will be initiated during the breeding	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	<p>identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. fish and Wildlife Service.</p>			<p>season (February 15 through September 15). The portion of the project site on which construction is to take place and potential nesting areas within 500 feet of the proposed construction area should be surveyed 14 to 30 days prior to the initiation of construction. Surveys should be performed by a qualified biologist or ornithologist to verify the presence or absence of nesting birds. Construction should not occur within a 500 foot buffer surrounding active nests of raptors or a 250 foot buffer surrounding active nests of migratory birds. If construction within these buffer areas is required or if nests must be removed to allow continuation of construction, then approval and specific removal methodologies should be obtained from CDFW.</p> <ol style="list-style-type: none"> 2. If during pre-construction nest surveys, burrowing owls are found to be present, the following measures will be implemented: <ol style="list-style-type: none"> a. Compensation for the loss of burrowing owl habitat will be negotiated with the responsible wildlife agencies. Appropriate mitigation may include participation in an approved mitigation bank, establishing a conservation easement, or other means acceptable to the responsible agency. b. Exclusion areas will be established around occupied burrows in which no construction activities would occur. During the non-breeding season (September 1 through January 31), the exclusion area would extend 160 feet around any occupied burrows. During the breeding season of burrowing owls (February 1 through August 31), exclusion areas of 250 feet surrounding occupied burrows would be installed. 	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
		3.4.1b		<p>c. If construction must occur within these buffer areas, passive relocation of burrowing owls may be implemented as an alternative, but only during the non-breeding season and only with the concurrence of the CDFW. Passive relocation of burrowing owls would be implemented by a qualified biologist using accepted techniques. Burrows from which owls had been relocated would be excavated using hand tools and under direct supervision of a qualified biologist.</p> <p>d. Compensation for the loss of burrowing owl burrows removed during construction will be negotiated with the responsible wildlife agency. This may require that replacement burrows be constructed on compensation lands.</p> <p>Protection of Swainson’s hawks and other raptors (including northern harrier) and migratory birds (including California horned lark).</p> <p>1. Pre-construction surveys should be conducted to determine the presence of nesting birds if ground clearing or construction activities will be initiated during the breeding season (February 15 through September 15). Potential nesting areas on the project site and potential nesting areas within 500 feet of the site should be surveyed 14 to 30 days prior to the initiation of construction. Surveys should be performed by a qualified biologist to verify the presence or absence of nesting birds. Construction should not occur within a 500 foot buffer surrounding active nests of raptors or a 250 foot buffer surrounding active nests of migratory birds. If construction within these buffer areas is required or if nests must be removed to allow continuation of construction, then approval and specific</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation																																				
				removal methodologies should be obtained from California Department of Fish and Wildlife.																																					
				2. All trees which are suitable for Swainson's hawk nesting that are within 2,640 feet of construction activities should be inspected by a qualified biologist.																																					
				3. If potential Swainson's hawk nests are found during the inspection, then surveys should be conducted at the following intensities, depending upon dates of initiation of construction:																																					
				<table border="1"> <thead> <tr> <th>Construction start</th> <th>Survey period</th> <th>Number of surveys</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td>1 January to 20 March</td> <td>1 January to 20 March</td> <td>1</td> <td>All day</td> </tr> <tr> <td>21 March to 24 March</td> <td>1 January to 20 March</td> <td>1</td> <td>All day</td> </tr> <tr> <td></td> <td>21 March to 24 March</td> <td>Up to 3</td> <td>Sunrise to 10 am and 4 pm to sunset</td> </tr> <tr> <td>24 March to 5 April</td> <td>1 January to 20 March</td> <td>1</td> <td>All day</td> </tr> <tr> <td></td> <td>21 March to 5 April</td> <td>3</td> <td>Sunrise to 10 am and 4 pm to sunset</td> </tr> <tr> <td>6 April to 9 April</td> <td>21 March to 5 April</td> <td>3</td> <td>Sunrise to 10 am and 4 pm to sunset</td> </tr> <tr> <td></td> <td>6 April to 9 April</td> <td>Up to 3</td> <td>Sunrise to 10 am and 4 pm to sunset</td> </tr> <tr> <td></td> <td>1 January to 20 March</td> <td>1 (if all 3 surveys are performed between 6 and 9 April, then</td> <td>All day</td> </tr> </tbody> </table>	Construction start	Survey period	Number of surveys	Timing	1 January to 20 March	1 January to 20 March	1	All day	21 March to 24 March	1 January to 20 March	1	All day		21 March to 24 March	Up to 3	Sunrise to 10 am and 4 pm to sunset	24 March to 5 April	1 January to 20 March	1	All day		21 March to 5 April	3	Sunrise to 10 am and 4 pm to sunset	6 April to 9 April	21 March to 5 April	3	Sunrise to 10 am and 4 pm to sunset		6 April to 9 April	Up to 3	Sunrise to 10 am and 4 pm to sunset		1 January to 20 March	1 (if all 3 surveys are performed between 6 and 9 April, then	All day	
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				10 April to 30 July	21 March to 5 April	3	this survey need not be conducted)	Sunrise to 10 am and 4 pm to sunset	
					6 April to 20 April	3		Sunrise to 12 pm and 4:30 pm to sunset	
				31 July to 15 September	6 to 20 April	3		Sunrise to 12 pm and 4:30 pm to sunset	
					10 to 30 July	3		Sunrise to 12 pm and 4 pm to sunset	

4. If Swainson’s hawks are detected to be actively nesting in trees within 2,640 feet of the construction area, construction should not occur within this zone until after young Swainson’s hawks have fledged (this usually occurs by early June). The nest should be monitored by a qualified biologist to determine fledging date. According to the *Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks in the Central Valley of California* (CDFG 1994), mitigation for foraging habitat is not mandatory for this site because there are no known CNDDDB occurrences within 10 miles of the project site. However, if Swainson’s hawks are found within the project area, the project site could be considered foraging habitat and compensation for foraging habitat would be required by CDFW at a ratio of 0.75 to 1 (0.75 acre for every 1.0 acre adversely affected). If there are active nests within one mile of the site, then compensation for foraging habitat would be at a ratio of 1:1.

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<ol style="list-style-type: none"> 5. If northern harriers or other raptors are found actively nesting within 250 feet of the construction area, construction should be postponed until after young have fledged. The date of fledging should be determined by a qualified biologist. If construction cannot be delayed within this zone, the CDFW should be consulted and alternative protection measures required by the CDFW should be followed. 6. If other nesting birds (particularly non-raptor species listed on the MBTA) are found actively nesting within 250 feet of the construction area, construction should be postponed until after young have fledged. The date of fledging should be determined by a qualified biologist. If construction cannot be delayed within this zone, the CDFW and/or the USFWS should be consulted and alternative protection measures required by the CDFW and/or the USFWS should be followed. 	
		3.4.1c		<p>To protect San Joaquin kit foxes and American badgers, the developer shall follow the <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance</i> (USFWS 1999). The measures that are listed below have been excerpted from those guidelines and would protect San Joaquin kit foxes and American badgers from direct mortality and from destruction of active dens and natal or pupping dens.</p> <ol style="list-style-type: none"> 1. Pre-construction surveys should be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, or any project activity likely to impact the San Joaquin kit fox or American badger. Exclusion zones should be placed around dens in accordance with USFWS Recommendations using the following: 	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation								
				<table border="1"> <tr> <td>Potential Den</td> <td>50 foot radius</td> </tr> <tr> <td>Known Den</td> <td>100 foot radius</td> </tr> <tr> <td>Natal/Pupping Den (Occupied and Unoccupied)</td> <td>Contact U.S. Fish and Wildlife Service for guidance</td> </tr> <tr> <td>Atypical Den</td> <td>50 foot radius</td> </tr> </table>	Potential Den	50 foot radius	Known Den	100 foot radius	Natal/Pupping Den (Occupied and Unoccupied)	Contact U.S. Fish and Wildlife Service for guidance	Atypical Den	50 foot radius	
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Natal/Pupping Den (Occupied and Unoccupied)	Contact U.S. Fish and Wildlife Service for guidance												
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				<p>If dens must be removed, they should be appropriately monitored and excavated by a trained wildlife biologist. Replacement dens would be required. Destruction of natal dens and other “known” kit fox dens should not occur until authorized by USFWS.</p>									
				<p>2. Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes and American badgers are most active. Nighttime construction should be avoided, unless the construction area is appropriately fenced to exclude kit foxes and American badgers. The area within any such fence should be determined to be uninhabited by San Joaquin Kit foxes and American badgers prior to initiation of construction. Off-road traffic outside of designated project areas should be prohibited.</p>									
				<p>3. To prevent inadvertent entrapment of kit foxes, American badgers, or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.</p>									

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<ol style="list-style-type: none"> 4. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe, becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped. 5. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or Project Site. 6. No firearms should be allowed on the Project Site during the construction phase. 7. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on the Project Site. 8. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal 	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>legislation, as well as additional project-related restriction deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.</p> <p>9. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.</p> <p>10. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.</p> <p>11. Upon completion of the project, all areas subject to</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to “temporary” disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Wildlife (CDFW), and revegetation experts.</p>	
				<p>12. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.</p>	
				<p>13. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured, or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The Service should be contacted at the numbers below.</p>	
				<p>14. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.	
				15. New sightings of kit foxes shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.	
				Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:	
				Endangered Species Division 2800 Cottage Way, Suite W2605 Sacramento, California 95825-1846 (916) 414-66200 or (916) 414-6600	
3.4.2	Aquatic Invasive Species (man-made lake)	3.4.2a	Potentially Significant	Source control Best Management Practices shall be implemented by the developer and include: a) Public Education/Participation activities. Information shall be provided to new project residents and tenants regarding aquatic invasive species and potential dangers associated therewith.	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<ul style="list-style-type: none"> b) Material Disposal and Recycling, which includes storm drain system signs and stenciling with language to discourage illegal dumping of unwanted materials. c) Illegal Dumping Controls. Any Covenants, Conditions, and Restrictions (CC&R's) for the developments of the proposed project shall include a prohibition on the dumping of waste products (solid waste/liquid waste and yard trash) into storm drain systems and open space areas. d) Watercraft Attachment Controls. Any CC&R's shall include a provision to clean and scrub any vessels that have been utilized elsewhere to remove any potential invasive species attached to the vessel. e) The applicant shall provide a permanent storm drain message "No Dumping - Flows to Lake" at each storm drain inlet within the proposed project site. This may be accomplished with a stamped concrete impression (for curbs) or manufactured colored tiles, which are epoxyed in place adjacent to the inlet (for parking lots and areas without curbs). 	
		3.4.2b		The Homeowners Association, as a part of the lake's routine maintenance plan, utilize a qualified professional to inspect the lake for aquatic invasive species and eradicate any found species in accordance with CDFW and USDA guidelines and procedures.	
3.4.3	Have a substantial adverse effect on any riparian habitat or other sensitive natural	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services.				
3.4.4	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.	N/A	Less than Significant	None are required.	N/A
3.4.5	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.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.5 Cultural Resources					
3.5.1	Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in Section 15064.5 of the CEQA Guidelines.	3.5.1	Potentially Significant	Should buried cultural resources (historic, archaeological, paleontological, unique geologic feature) be discovered during construction, the project contractor shall immediately halt all work within 50 feet of the find until a qualified professional archaeologist, historian, paleontologist, or geologist, as necessitated by the find, can be consulted to evaluate the find and implement appropriate mitigation measures. Should human skeletal remains be encountered, State law requires immediate notification of the County Coroner. Should the County Coroner determine that such remains are in an archaeological context, the Native American Heritage Commission in Sacramento shall be notified immediately, pursuant to State law, to arrange for Native American participation in determining the disposition of remains.	Less than Significant
3.5.2	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value.		Potentially Significant	Implementation of Mitigation Measure #3.5-1. No additional mitigation measures are required.	Less than Significant
3.5.3	Disturb any human remains, including those interred outside of formal cemeteries.		Potentially Significant	Implementation of Mitigation Measure #3.5-1. No additional mitigation measures are required.	Less than Significant
3.6 Geology and Soils					
3.6.1	Exposure of people and structures to potential substantial adverse effects, including the	3.6.1	Potentially Significant	Prior to issuance of grading permits for the Westlake development, the applicant shall submit a design-level geotechnical study to the City of Fresno for review and approval. A licensed professional engineer shall prepare the	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, ground failure, or landslides.			plans, including those that pertain to soil engineering and structural foundations. The approved plans shall be incorporated into the proposed project. All onsite soil engineering activities shall be conducted under the supervision of a licensed Geotechnical Engineer or Certified Engineering Geologist.	
3.6.2	Result in substantial soil erosion or the loss of topsoil.	N/A	Less than Significant	None are required.	N/A
3.6.3	Result in potential hazards due to construction on unstable soils.		Potentially Significant	Implement Mitigation Measure #3.6.1	Less than Significant
3.6.4	Result in potential hazards due to construction on expansive soils.	N/A	Less than Significant	None are required.	N/A
3.6.5	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.	N/A	No impact	None are required.	N/A
3.7 Hazards and Hazardous Materials					
3.7.1	Create a significant hazard to the public or the environment through the routine	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions.				
3.7.2	Create a significant health hazard to the public or the environment through the introduction of a man-made lake.	3.7.2a	Potentially Significant	The project shall submit a Mosquito Control Plan for the operation and maintenance of the proposed lake.	Less than Significant
		3.7.2b		The design of the lake feature shall be in accordance with the guidelines established by the City of Fresno in its “Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding”, as applicable.	
3.7.3	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within on quarter mile of an existing or proposed school.	N/A	Less than Significant	None are required.	N/A
3.7.4	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	3.7.4a	Potentially Significant	Prior to issuance of grading permits, the project applicant shall retain a qualified consultant to perform testing of the project site soils, in particular those soils on the site that were subject to pesticide use, soils in the vicinity of the diesel fuel storage tank and soils adjacent to the former railroad alignment, in accordance with the California Department of Toxic Substances (DTSC) “Interim Guidance for Sampling	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	create a significant hazard to the public or the environment.			Agricultural Properties". The Guidance document provides recommendations for the number of soil samples and methodology based on project size in acres. Soils shall be laboratory tested for organochlorine pesticides and arsenic in accordance with DTSC guidelines. If the testing yields concentrations in excess of acceptable limits for residential and commercial development, the project applicant shall retain a qualified contractor to perform soil remediation in accordance with DTSC guidelines. The soil remediation activities shall be completed prior to grading activities. The applicant shall submit documentation to the City of Fresno demonstrating that soil testing was performed and any necessary remediation was completed as part of the grading permit application.	
		3.7.4b		Irrigation wells that may be dispersed throughout the project site, and any potential onsite domestic wells and septic systems shall be properly abandoned or destroyed in compliance with applicable regulations of the Fresno County Department of Public Health governing water wells and septic systems. Consultation shall occur with the Department of Public Health regarding well and septic system abandonment and inspections. Documentation of wells and septic systems being abandoned or destroyed shall be submitted to the City of Fresno Planning Department prior to construction of proposed uses. If irrigation wells and septic systems are found during construction activities; those activities shall cease until consultation with the County Department of Public Health has occurred to review proper abandonment of those systems. The developer shall be allowed to keep an existing on-site well for lake purposes.	
		3.7.4c		The applicant shall consult with PG&E to determine the location of electric power lines and high-pressure gas transmission lines within the project boundaries. The	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>locations/depths shall be delineated on all grading/development plans. Development plans shall provide for unrestricted utility access and prevent easement encroachments that might impair the safe and reliable maintenance and operation of PG&E facilities. Grading/development plans shall indicate which types of equipment and wheel load limits will be acceptable for work over the gas line. PG&E shall be afforded the opportunity to consult with the developer on project plans.</p>	
3.8 Hydrology/Water Supply/Water Quality					
3.8.1	Violation of Water Quality Standards or Waste Discharge Requirements.	3.8.1	Potentially Significant	<p>The project applicant shall implement, and incorporate in the project, BMPs to ensure that construction related and long-term storm water runoff water quality impacts are minimized. BMPs shall be designed, constructed and maintained to meet the performance standards of and the approval of the City of Fresno and the FMFCD. The applicant shall retain a qualified specialist to monitor the effectiveness of the BMPs selected. Monitoring activities, along with funding for monitoring, shall be established and shall include (but not be limited to) initial setup, yearly maintenance, and yearly monitoring.</p> <p>During buildout of the proposed project, the applicant shall implement actions and procedures established to reduce pollutant loadings. Source control BMPs are effective and economical in preventing pollutants from entering storm and non-storm runoff. Such source control BMPs will be incorporated in the program and its included projects. The other, operational and maintenance, BMPs described hereinafter will be implemented and monitored during project life in accord with the approved mitigation monitoring program. Source control BMPs to be implemented by the developer and include:</p>	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<ul style="list-style-type: none"> a) Public Education/Participation activities. Information shall be provided to new project residents and tenants regarding pollution prevention. b) Materials Use Controls, which include good housekeeping practices (storage, use and cleanup) when handling potentially harmful materials, such as cleaning materials, fertilizers, paint, and where possible using, safer alternative products. c) Material Exposure Controls, which prevent and reduce pollutant discharge to storm water by minimizing the storage of hazardous materials (such as pesticides) on site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors. d) Material Disposal and Recycling, which includes storm drain system signs and stenciling with language to discourage illegal dumping of unwanted materials. e) Spill Prevention and Cleanup activities which are directed toward reducing the risk of spills during the outdoor handling and transport of chemicals, and toward developing plans and programs to contain and rapidly clean up spills before they get into a storm drain system. This BMP also deals with the prevention and reduction of pollution from vehicle leaks and spills from vehicles during transport, as well as aboveground storage tanks. f) Illegal Dumping Controls. The Covenants, Conditions, and Restrictions (CC&R's) for the proposed project shall include a prohibition on the dumping of waste products (solid waste/liquid waste and yard trash) into storm drain systems and open space areas. 	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.8.2	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		Less than Significant	<p>g) The applicant shall provide a permanent storm drain message "No Dumping - Flows to Creek" or other approved message at each storm drain inlet within the proposed project site. This may be accomplished with a stamped concrete impression (for curbs) or manufactured colored tiles, which are epoxied in place adjacent to the inlet (for parking lots and areas without curbs).</p> <p>h) Street and storm drain maintenance activities. These activities control the movement of pollutants and remove them from pavements through catch basin cleaning, storm drain flushing, street sweeping, and by regularly removing illegally dumped material from storm channels and creeks. (The City of Fresno would be responsible for regular storm drain maintenance within the public right-of-way; grease traps and other storm water quality control devices on private property must be maintained by the property owners).</p> <p>i) Storm drainage shall be directed to the lined onsite lake for disposal.</p> <p>None are required.</p> <p>However, the Applicant proposes, as conditions of project approval, to implement the following measures to reduce water demands and achieve water demand offset:</p> <ul style="list-style-type: none"> ▪ Provide for the ultimate irrigation of all public green spaces with non potable water and install "purple pipe" within those areas. This system could, at a future date, accommodate Title 22 treated effluent for the purposes of irrigation of public green spaces. 	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	drop to a level which would not support existing land uses or planned uses for which permits have been granted).			<ul style="list-style-type: none"> ▪ Construct the 55-acre lake feature to accept Title 22 treated effluent, even though a source for such water is not yet available. 	
3.8.3	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, siltation or flooding on- or off-site or create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	N/A	Less than Significant	None are required.	N/A
3.8.4	Otherwise substantially degrade water quality.	N/A	Less than Significant	None are required.	N/A
3.8.5	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	Insurance Rate Map or other flood hazard delineation map, or place within a 100-year flood hazard area structures which would impede or redirect flood flows.				
3.8.6	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.	N/A	Less than Significant	No mitigation measures are required.	N/A
3.9 Land Use and Planning					
3.9.1	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.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.10 Noise					
3.10.1	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.	3.10.1a	Potentially Significant	<p>The City of Fresno shall require that construction contractors comply with all applicable local regulations regarding noise suppression and attenuation. The following requirements shall be included in the construction specifications:</p> <ul style="list-style-type: none"> ▪ The hours of future construction within the Westlake Development Project site shall be limited to 7:00 a.m. to 7:00 p.m. Monday through Saturday; ▪ Construction activities shall be prohibited on Sundays and holidays (President’s Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, Day after Thanksgiving, Christmas Day, and New Year’s Day); ▪ Locate fixed construction equipment such as compressors and generators at distances no less than 300 feet from sensitive receptors (including occupied residential property boundaries); ▪ Shroud or shield impact tools, and muffle or shield intake and exhaust ports on power construction equipment; and ▪ All engine-driven equipment shall be in proper tune and shall be fitted with mufflers according to manufacturers’ specifications. 	<p>Construction Noise – <i>Less than Significant.</i> Onsite Transportation Noise – <i>Less than significant.</i> Offsite Transportation Noise – <i>Significant and unavoidable</i>¹ Onsite Stationary Noise – <i>Less than significant.</i> Offsite stationary sources – <i>Less than significant.</i></p>
		3.10.1b		Prior to issuance of building permits for development within the Westlake Development Project site, a detailed acoustical study shall be prepared by a certified professional to document potential impacts to onsite noise-sensitive land	

¹ See discussion regarding mitigation infeasibility under Impact #3.10.3.

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				<p>uses (as determined by the City of Fresno’s General Plan, refer to Table 3.10-5). Potential impacts in exceedance of the City of Fresno’s standards including: Maximum Allowable Noise Exposure-Stationary Noise Sources, Maximum Allowable Noise Exposure from Transportation Noise Sources, City of Fresno Incremental Noise Impact Criteria for Noise-Sensitive Uses, and Exterior Noise Standards shall require incorporation of mitigation such as increased setbacks, sound walls, equipment enclosures, site design, and enhanced building materials to reduce impacts to levels below the City of Fresno standards. Development that cannot incorporate mitigation to reduce impacts to acceptable City of Fresno standards shall not be approved.</p>	
		3.10.1c		<p>Construction within the project of two story homes along Grantland Avenue and adjacent to commercial uses within the project site shall be prohibited unless a detailed acoustical analysis, prepared by a certified professional, can document compliance with the city’s 45 dB DNL standard at the upper floor elevation.</p>	
		3.10.1d		<p>Prior to issuance of building permits for noise-sensitive land uses adjacent to Grantland Avenue a sound wall shall be constructed to reduce noise levels by 10 db or as determined necessary by the acoustical study required by Mitigation Measure #3.10.1b.</p>	
		3.10.1e		<p>Prior to issuance of building permits for development within the project site, a detailed acoustical study shall be prepared by a certified professional to analyze noise levels generated by the existing water pumping facility located 1,000 feet south from the northwest corner of the project site. The acoustical study shall include recommendations for noise mitigation by the project developer based on the noise levels produced by the facility, and regarding the locations of the</p>	

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				closest noise-sensitive land uses, to ensure that the project is in compliance with the City's General Plan noise standards. These mitigation measures shall be incorporated into the project design prior to issuance of the building permit.	
3.10.2	Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.	N/A	Less than Significant	None are required.	N/A
3.10.3	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	N/A	Potentially Significant	No mitigation measures are feasible.	Significant and Unavoidable
3.10.4	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.		Potentially Significant	Implement Mitigation Measures #3.10.1a and #3.10.1b.	Less than significant
3.11 Population and Housing					
3.11.1	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).	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.11.2	Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.	N/A	No Impact	None are required.	N/A
3.12 Public Services					
3.12.1	Increased Demand for Fire Protection Services and Personnel.	3.12.1	Potentially Significant	<p>The following mitigation measures will reduce the emergency service impacts of this project:</p> <ol style="list-style-type: none"> 1. Provide automatic fire sprinkler systems in all buildings (except “U” occupancies) regardless of square footage. Comply with California Building and Fire code requirements regarding fire sprinkler standard designations as adopted by the City. 2. Subject to the provisions of a Development Agreement addressing construction funding, the Developer shall commence and complete construction of Fire Station 18 at its permanent location (Shaw and Bryan), in compliance with the City’s plans, standards and specifications as reasonably determined by the Fire Chief or his/her designee, prior to any of the following events, whichever event occurs first: <ol style="list-style-type: none"> a. The issuance of the building permit for the 201st residential unit within the Westlake Development; b. A combination of the issuance of the building permit for the 201st residential unit within the Westlake Development and for final tract maps recorded or multiple family units approved after the certification 	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
				of the Final EIR within the service area of Permanent Station No. 18.	
				c. The opening of the proposed new high school at the Koligian Educational Complex, scheduled for Fall of 2016.	
				3. Avoid the installation of stop signs along primary access roads within the project area local street system. Signalization of intersections with traffic interruption technology is preferred.	
				4. As currently prohibited by Public Works Standards, traffic undulations for traffic calming are not allowed on public streets; this prohibition needs to continue in the project area should Public Works reconsider such installations in the future. Additionally, traffic undulations on any private roads or drive lanes within parking lots in the project area need to be prohibited. Other traffic calming technologies (bulb-outs, medians, islands, etc.) will be evaluated on a case-by-case basis as to the impact on emergency response times.	
				5. All fire access drive gates on private roads and parking lot drive lanes shall be provided with radio frequency gate opening devices (i.e. "Click-to-enter") in addition to the standard police/fire bypass keyway. Manually operated gates across required fire access roadways is prohibited.	
3.12.2	Increased Demand for Law Enforcement Services.	3.12.2	Potentially Significant	The applicant shall pay all Police Impact fees and consult with appropriate Police Department staff regarding security needs during all aspects of the Westlake Development.	Less than Significant
3.12.3	Increased Demand on Public Schools.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.12.4	Increased Demand on Parks and Recreation.		Potentially Significant	Implement Mitigation Measure #3.13.1 which states: “The developers of the Westlake project shall comply with the adopted City of Fresno open space policy and shall create “onsite” (or participate in the creation “offsite”) an equivalent of 3 acres of park space/1000 persons; approximately 24 acres in total. Prior to the processing of the project’s Conditional Use Permit, the applicant shall provide a “Parks and Open Space Plan” to the City of Fresno for review and approval. That plan will identify the parks and open spaces within the boundaries of the Westlake project. Parks and other open space facilities located within the project will be linked together by paths and/or Class I trails, or may be developed using traditional development patterns as outlined in the Fresno General Plan policies. Maintenance of public parks and open spaces within the Westlake project boundaries shall be provided by either a Homeowner’s Association or a Community Facilities District, or a combination of the two. The developer will be entitled for parks fee credits for parks and other open space facilities associated with the project. In consideration of receiving these credits, the developer has agreed to renovate an existing City of Fresno park facility to be determined by the City. The value of the fee credits and renovation will be subject to the project’s adopted Development Agreement.”	Less than Significant
3.12.5	Increased Demand on Library Services.	N/A	Less than Significant	None are required.	Less than Significant
3.12.6	Increased demand on Public Protection Facilities.	N/A	Less than Significant	None are required.	Less than Significant
3.12.7	Increase Demand on Paramedic Services.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.13 Recreation					
3.13.1	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.	3.13.1	Potentially Significant	The developers of the Westlake project shall comply with the adopted City of Fresno open space policy and shall create “onsite” (or participate in the creation “offsite”) an equivalent of 3 acres of park space/1000 persons; approximately 24 acres in total. Prior to the processing of the project’s Conditional Use Permit, the applicant shall provide a “Parks and Open Space Plan” to the City of Fresno for review and approval. That plan will identify the parks and open spaces within the boundaries of the Westlake project. Parks and other open space facilities located within the project will be linked together by paths and/or Class I trails, or may be developed using traditional development patterns as outlined in the Fresno General Plan policies. Maintenance of public parks and open spaces within the Westlake project boundaries shall be provided by either a Homeowner’s Association or a Community Facilities District, or a combination of the two. The developer will be entitled for parks fee credits for parks and other open space facilities associated with the project. In consideration of receiving these credits, the developer has agreed to renovate an existing City of Fresno park facility to be determined by the City. The value of the fee credits and renovation will be subject to the project's adopted Development Agreement.	Less than Significant
3.13.2	Does the project include recreation facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.14 Transportation/Traffic					
3.14.1	<p>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.</p> <p>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?</p>	3.14.1-1 through 3.14.1-117	Potentially Significant	As determined by the City of Fresno, the Project shall mitigate its fair share of cumulative impacts by paying into the City of Fresno TSMI, FMSI, and RTMF fee program and/or constructing the improvements and receiving credits and reimbursements for the portion of construction that is included in the fee program as identified in Mitigation Measures 3.14.1-1 through 3.14.1-117.	Significant and Unavoidable

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	[Evaluation Criteria (a) and (b)]				
		3.14.2	Potentially Significant	An updated traffic study shall be provided by the developer as necessary in order that the most recent traffic impact study for the project is no older than 5 years prior to the recording date of any final map or the granting of a Conditional Use Permit. The timing of mitigation measures may be adjusted pursuant to a Development Agreement for the project and pursuant to subsequent amendments to a Development Agreement, based upon the updated traffic impact studies for the project.	Significant and Unavoidable
3.14.2	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. [Evaluation Criteria (c)]	N/A	No Impact	None are required	N/A
3.14.3	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment). [Evaluation Criteria (d)]	3.14.3	Potentially Significant	All roadways and access points shall be designed according to current City or County of Fresno roadway improvement standards, to the satisfaction of either or both the City or County Public Works Departments, depending upon jurisdiction.	Less than Significant
3.14.4	Result in inadequate emergency access. [Evaluation Criteria (e)]	3.14.4	Potentially Significant	Proposed project site plans will be required to be reviewed by the City fire and police departments to ensure adequate emergency access.	Less than Significant

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.14.5	Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks). [Evaluation Criteria (f) and (g)]	N/A	Less than Significant	None are required.	N/A
3.15 Utilities					
3.15.1	Exceed wastewater treatment requirements of the Regional Water Quality Control Board, Central Valley Region.	N/A	Less than Significant	None are required.	N/A
3.15.2	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.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.15.3	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	N/A	Less than Significant	None are required.	N/A
3.15.4	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.	N/A	Less than Significant	None are required.	N/A
3.15.5	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	N/A	Less than Significant	None are required.	N/A
3.15.6	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	N/A	Less than Significant	None are required.	N/A

Impact #	Impact	Mitigation Measure	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
3.15.7	Comply with federal, state, and local statutes and regulations related to solid waste.	N/A	No Impact	None are required.	N/A
3.15.8	Result in the inefficient, wasteful, or unnecessary consumption of energy.	N/A	Less than Significant	None are required.	N/A
3.16 Greenhouse Gas Emissions and Global Climate Change					
3.16.1	Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.		Potentially Significant	Implement Mitigation Measure #3.3.1e through Mitigation Measure #3.3.1f.	Less than Significant
3.16.2	Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.	N/A	Less than Significant	None are required.	N/A
3.16.3	Climate change effects on the project.	N/A	Less than Significant	None are required.	N/A

**Table ES-2
Summary of Required Intersection Mitigation Measures**

Intersection	Existing Plus Project	Existing Plus Phase 1	Phases 1 - 3 (2016)	Full Build (2021)	2030
Grantland / Whitesbridge			2016-1 Signals and Widening	2021-1 Signals & Widening*	2030-1 Signals & Widening
Grantland / Belmont					2030-2 All-Way Stop
Grantland / Olive					
Grantland / McKinley					2030-3 All-Way Stop
Grantland / Clinton					
Bryan / Clinton					
Hayes / Clinton				2021-2 Single-Lane Roundabout	2030-4 Single-Lane Roundabout**
Polk / Clinton					2030-5 Roundabout (or Signals)
Cornelia / Clinton					2030-6 Signals & Widening
Blythe / Clinton					
Brawley / Clinton					
Valentine / Clinton	E-1 Signals and Widening			2021-3 Signals & Widening	2030-7 Signals & Widening**
Marks / Clinton					
Grantland / Shields	E-2 Widening			2021-4 Signals & Widening	2030-8 Signals & Widening
Bryan / Shields				2021-5 Single-Lane Roundabout	2030-9 Single-Lane Roundabout**
Hayes / Shields			2016-2 All-Way Stop	2021-6 Single-Lane Roundabout	2030-10 Single-Lane Roundabout**
Polk / Shields			2016-3 Widening	2021-7 Signals & Widening	2030-11 Signals & Widening
Cornelia / Shields				2021-8 Signals & Widening	2030-12 Signals & Widening**
Blythe / Shields			2016-4 Widening	2021-9 Signals & Widening	2030-13 Signals & Widening**
Brawley / Shields				2021-10 Signals & Widening	2030-14 Signals & Widening
Valentine / Shields			2016-5 Signals and Widening	2021-11 Signals & Widening*	2030-15 Signals & Widening
SR 99 SB ramps / Shields / Parkway				2021-12 Signals or Roundabout	2030-16 Signals or Roundabout
Westlake Loop / Southern Access					
Westlake Loop / Dakota (west)					
Westlake Loop / Dakota (east)					
Grantland / Dakota				2021-13 Signals & Widening	2030-17 Signals & Widening**
Bryan / Dakota				2021-14 All-Way Stop	2030-18 All-Way Stop**
Westlake Loop / Ashlan (west)					
Westlake Loop / Ashlan (east)					
Grantland / Ashlan	E-3 Signals and Widening		2016-6 Signals and Widening	2021-15 Signals & Widening	2030-19 Signals & Widening**
Bryan / Ashlan	E-4 Signals		2016-7 Signals #	2021-16 Signals & Widening	2030-20 Signals & Widening
Hayes / Ashlan	E-5 Signals and Widening		2016-8 Signals and Widening #	2021-17 Signals & Widening	2030-21 Signals & Widening
Polk / Ashlan	E-6 Signals and Widening		2016-9 Signals and Widening	2021-18 Signals & Widening	2030-22 Signals & Widening**
Cornelia / Ashlan	E-7 Widening		2016-10 Optimize Signal Timing	2021-19 Widening	2030-23 Widening**
Blythe / Ashlan				2021-20 Widening	2030-24 Widening**
Westlake Loop / Gettysburg Access					
Grantland / Gettysburg (West)	E-8 Signals and Widening			2021-21 Signals & Widening	2030-25 Signals & Widening**
Grantland / Shaw	E-9 Signals and Widening	E-1-1 All-way stop	2016-11 Signals and Widening	2021-22 Signals & Widening	2030-26 Signals & Widening
Veterans / Shaw				2021-23 Signals & Widening	2030-27 Signals & Widening
Bryan / Shaw	E-10 Widening		2016-12 Signals and Widening	2021-24 Signals & Widening*	2030-28 Signals & Widening
Hayes / Shaw			2016-13 Widening	2021-25 Signals & Widening	2030-29 Signals & Widening**
Veterans / Barstow				2021-26 Signals & Widening	2030-30 Signals & Widening
Veterans / Bryan				2021-27 Signals & Widening	2030-31 Signals & Widening
Veterans / Gettysburg					2030-32 Signals & Widening

2021 mitigation is identical to the Existing Plus Project Mitigation

* 2021 mitigation is identical to the 2016 mitigation

** 2030 mitigation is identical to the 2021 mitigation

**Table ES-3
Summary of Required Road Segment Mitigation Measures**

Road Segment	Existing Plus Project	Existing Plus Phase 1	Phases 1 - 3 (2016)	Full Build (2021)	2030
Grantland Avenue					
Shaw to Gettysburg	E-11 Widen to 4 lanes			2021-28 Widen 4 Lane + Median	
Gettysburg to Ashlan	E-11 Widen to 4 lanes			2021-29 Widen 4 Lane + Median	2030-33 Widen 4 Lane + Median**
Ashlan to Dakota	E-12 Widen 4 Lane + Median			2021-30 Widen 4 Lane + Median #	2030-34 Widen 4 Lane + Median**
Dakota to Shields				2021-31 Widen 4 Lane + Median	2030-35 Widen 4 Lane + Median**
Shields to Clinton					
Clinton to McKinley					
McKinley to Olive					
Olive to Belmont					
Belmont to Whitesbridge					
Bryan Avenue					
Shaw to Gettysburg					
Gettysburg to Ashlan					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Hayes Avenue					
Shaw to Gettysburg					
Gettysburg to Ashlan					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Polk Avenue					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Blythe Avenue					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Brawley Avenue					
Shields to Clinton					
Shaw Avenue					
Grantland to Veterans	E-13 Widen 4 Lane + Median		2016-14 Add LT Lanes	2021-32 Widen 4 Lane + Median #	
Veterans to Bryan	E-13 Widen 4 Lane + Median		2016-14 Add LT Lanes	2021-33 Widen 4 Lane + Median #	2030-36 Widen 4 Lane + Median**
Bryan to Hayes	E-14 Widen 4 Lane + Median		2016-15 Add LT Lanes	2021-34 Widen 4 Lane + Median #	2030-37 Widen 4 Lane + Median**
Ashlan Avenue					
Grantland to Bryan				2021-35 Widen 4 Lane + Median	
Bryan to Hayes	E-15 Widen 2 Lane + Median			2021-36 Widen 4 Lane + Median	2030-38 Widen 4 Lane + Median**
Hayes to Polk	E-16 Widen 2 Lane + Median			2021-37 Widen 4 Lane + Median	2030-39 Widen 4 Lane + Median**
Polk to Cornelia	E-17 Widen 4 Lane + Median		2016-16 Widen 4 Lane + Median	2021-38 Widen 4 Lane + Median #*	2030-40 Widen 4 Lane + Median**
Cornelia to Blythe				2021-39 No Feasible Mitigation	
Blythe to Parkway	E-18 No Feasible Mitigation			2021-40 No Feasible Mitigation #	2030-41 No Feasible Mitigation**
Dakota Avenue					
Grantland to Bryan					
Shields Avenue					
Grantland to Bryan					
Bryan to Hayes					
Hayes to Polk					
Polk to Cornelia					
Cornelia to Blythe				2021-41 Widen 2 Lane + TWLTL	2030-42 Widen 2 Lane + TWLTL**
Blythe to Brawley				2021-42 Widen 2 Lane + TWLTL	2030-43 Widen 2 Lane + TWLTL**
Brawley to Valentine			2016-17 Widen 2 Lane + TWLTL	2021-43 Widen 2 Lane + TWLTL*	2030-44 Widen 4 Lane
Valentine to Parkway				2021-44 Widen 2 Lane + TWLTL	2030-45 Widen 4 Lane
Clinton Avenue					
Grantland to Bryan					
Bryan to Hayes					
Hayes to Polk					
Polk to Cornelia					
Cornelia to Blythe				2021-45 Widen 2 Lane + Median	
Blythe to Brawley					
Brawley to Valentine					
Valentine to Marks					
Marks to Vassar					
Veterans Boulevard					
Gettysburg S. to Gettysburg N.					
Gettysburg N. to Shaw					
Shaw to Barstow					2030-46 Widen 6 Lane + Median
Barstow to Bryan				2021-46 Widen 6 Lane + Median	2030-47 Widen 6 Lane + Median**
Bryan to SR 99				2021-47 Widen 6 Lane + Median	2030-48 Widen 6 Lane + Median**

2021 mitigation is identical to the Existing Plus Project Mitigation

* 2021 mitigation is identical to the 2016 mitigation

** 2030 mitigation is identical to the 2021 mitigation

CHAPTER ONE

INTRODUCTION

CHAPTER ONE – INTRODUCTION

This section of the Environmental Impact Report (EIR) briefly describes the proposed project, delineates the procedure and methodology for environmental evaluation of the project and outlines the contents of the Program EIR.

1.1 Overview of the CEQA Process

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with implementation of the Westlake Development Project (State Clearinghouse No. 2007121033). This document is prepared in conformance with CEQA (California Public Resources Code, Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000, et. seq.). This Draft EIR is intended to serve as an information document for the public agency decision makers and the public regarding the proposed project.

1.1.1 PROJECT OVERVIEW

The proposed project for which this Draft EIR has been prepared is for the adoption and implementation of the Westlake development project (460 acres) located adjacent to the City of Fresno on the west side of the community. Granville at Westlake, Inc. is proposing to develop a 460-acre project with residential and commercial uses in an area located west of State Route 99 bounded by West Gettysburg Avenue, West Shields Avenue, North Garfield Avenue, and North Grantland Avenue (reference Figures 2-1 through 2-6 in Chapter Two). The project will consist of approximately 2,600 residential units at various densities and construction of up to 295,000 square feet of community and neighborhood commercial buildings, and a private lake. Reference Chapter Two for a complete project description.

The project description set forth in this EIR is intended for programmatic evaluation in this EIR. More specific project buildout configurations and schedules will be determined when future entitlements are processed, including but not limited to, a Conditional Use Permit and tract maps. At that time, aspects of the project may be subject to additional CEQA analysis to determine whether the analysis contained in this Program EIR covers the proposed activities. If future project activities are determined to be outside the assumptions and analysis in this EIR, additional CEQA analysis would be necessary.

1.1.2 TYPE AND PURPOSE OF THIS DRAFT EIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

Inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

Given the long-term nature of the proposed project and the permitting, planning, and development actions that are related both geographically and as logical parts in the chain of contemplated actions to implement the proposed project, this document has been prepared as a Program EIR pursuant to Section 15168.

Program EIR

This Draft EIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the State CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR provides the City of Fresno (as lead agency) the opportunity to consider broad policy alternatives and program-wide mitigation measures and provides the City with greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive basis.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether additional CEQA documentation needs to be prepared. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (CEQA Guidelines Section 15168[c]). When a Program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects not within the scope of the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. In this case, the Program EIR is still valuable as the first-tier environmental analysis. The CEQA Guidelines (Section 15168[h]) encourage the use of Program EIRs, citing five advantages:

1. To provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
2. To focus on cumulative impacts that might be slighted in a case-by-case analysis;
3. To avoid continual reconsideration of recurring policy issues;
4. To consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them; and
5. To reduce paperwork by encouraging the reuse of data (through tiering).

Purpose

The purpose of this Draft EIR is to analyze and evaluate the environmental impacts of the proposed project to the degree of specificity appropriate, in accordance with CEQA Guidelines Section 15146. This document addresses the potentially significant adverse environmental impacts that may be associated with the planning, construction, or operation of the project. It also identifies appropriate and feasible mitigation measures and alternatives that may be adopted to significantly reduce or avoid these impacts.

CEQA requires that an EIR contain, at a minimum, certain specific elements. These elements are contained in this Draft EIR and include:

- Table of Contents;
- Executive Summary;
- Introduction;
- Project Description;
- Environmental Setting, Consideration of Environmental Impacts and Significant Impacts, and Mitigation Measures;
- Cumulative Impacts;
- Significant Unavoidable Adverse Impacts;
- Alternatives to the Proposed Project;
- Growth-Inducing Impacts;
- Impacts Found Not To Be Significant; and
- Areas of Known Controversy.

1.1.3 LEAD AGENCY DETERMINATION

The City of Fresno is designated as the lead agency for the project. CEQA Guidelines Section 15367 defines the lead agency as, "...the public agency, which has the principal responsibility for carrying out or approving a project." Other public agencies may use this Draft EIR in the decision-making or permit process and consider the information in this Draft EIR along with other information that may be presented during the CEQA process.

As Lead Agency, the City of Fresno has determined that a Program EIR should be prepared for the proposed project and related actions outlined in Chapter Two in accordance with the requirements of CEQA. The City of Fresno intends to streamline the CEQA process for

subsequent project proposals, as may be allowable, for permit applications on the site which are determined to be consistent with, and covered by, the Westlake Development Project EIR.

This Draft EIR was prepared by Quad Knopf, Inc., an environmental consultant under contract to the City of Fresno. Prior to public review, the Draft EIR was extensively reviewed and evaluated by the City of Fresno. This Draft EIR reflects the independent judgment and analysis of the City of Fresno as required by CEQA. Lists of organizations and persons consulted and the report preparation personnel are provided in Chapter 9 of this Draft EIR.

1.2 Scope of the EIR

This Draft EIR addresses the potential environmental effects of the proposed project. The City of Fresno issued a Notice of Preparation (NOP) for the proposed project on December 7, 2007, which circulated between December 7, 2007 and January 7, 2008 for the statutory 30-day public review period. The scope of this Draft EIR includes the potential environmental impacts identified in the NOP and issues raised by agencies in the public response to the NOP. The NOP is contained in Appendix A of this Draft EIR.

Eleven comment letters were received in response to the NOP. Copies of the written comments received during the public review period are contained in Appendix A. This DEIR has taken into consideration the comments received from the various agencies in response to the NOP. Table 1-1 summarizes the issues identified by the commenting agencies, along with a reference to the section of this DEIR where the issues are addressed.

**Table 1-1
NOP Comment Letters**

Commenting Agency/Person	Comment Type/Summary	Issue Addressed in:
California Department of Transportation, District 6 Joanne Striebich, Office of Transportation and Planning	Transportation Requested that Traffic Impact Study (TIS) for the project reference the Caltrans Guide for Traffic Impact Studies. Requested that the project's TIS analyze impacts along State Route (SR) 99 between the Herndon Avenue Interchange and the Clinton Interchange and include a queue analyses for all traffic movements that potentially impact SR 99 ramp, ramp junction, and ramp intersection operation for existing and proposed intersections/interchanges. Requested that the EIR identify the project's impacts and calculate fair share payments to mitigate for those impacts in accordance with Caltrans' Interim Agreement with the City of Fresno.	Section 3.15 Transportation and Traffic

**Table 1-1
NOP Comment Letters (Continued)**

Commenting Agency/Person	Comment Type/Summary	Issue Addressed in:
Central Unified School District David Deel, Facilities Planning Manager	The School District provided an estimate of the total number of students the project would generate and indicated adequate capacity for grades 7-12, but a need to construct a new elementary school to accommodate K-6 grade levels. The existing General Plan includes a 20-acre site designated for an elementary school; the District requested that the EIR analyze the impacts of changing this designation.	Section 3.9 Land Use, Section 3.13 Public Services
City of Kerman Luis Patlan, Director of Planning and Development Services	No Comments	Not Applicable
County of Fresno, Department of Community Health Glenn Allen, R.E.H.S., Environmental Health Specialist III	Noise/Hazards Requested that the noise impact analysis for the project evaluate short-term localized noise impacts to noise sensitive receptors caused by the operation of construction equipment. Requested that the EIR discuss the proper abandonment of individual domestic and agricultural wells.	Section 3.7 Hazards, Section 3.11 Noise
Fresno Irrigation District Steve Bloem, Engineering Technician	Hydrology/Utilities The Fresno Irrigation District (FID) provided a list of requested conditions be placed on the project' approval. The conditions involve easements to relocate existing FID facilities. FID provided information on water supply to the existing and proposed project and recommendations for maintaining pre-project recharge of groundwater. Water provided to the lake will most likely not be City "entitled" and will need to enter into a separate Water Purchase Agreement.	Section 3.8, Hydrology, Section 3.16 Utilities

**Table 1-1
NOP Comment Letters (Continued)**

Commenting Agency/Person	Comment Type/Summary	Issue Addressed in:
Fresno Local Agency Formation Commission Darrel Schmidt, Deputy Executive Officer	Land Use/Public Services The Local Agency Formation Commission (LAFCO) provided clarification that the pre-zoning by the City must be completed before the submittal of an annexation application. LAFCO requested that the EIR consider impacts to special districts, such as the Kings River Conservation District and the North Central Fire Protection District where detachment will be necessary and other districts where detachment will not be necessary. LAFCO requested that the EIR analyze the peninsula effect created by the project and whether this project would be considered orderly growth and development. LAFCO requested that the City and County meet to discuss this specific annexation proposal prior to completion of the EIR.	Section 3.9 Land Use, Section 3.13 Public Services
Fresno Mosquito and Vector Control District Gary Bye, Biologist	Hazards The Fresno Mosquito and Vector Control District expressed concern that the manmade lake could be a source of mosquito activity and provided recommendations for natural mosquito control. The District also wanted the project applicant to be aware that the lake is also attractive to midges and can create a nuisance for residents and that control of this insect would require a private pest control service.	3.7 Hazards and Hazardous Materials
Native American Heritage Commission Dave Singleton, Program Analyst	Cultural Lead agency is required to perform a record search per state guidelines in order to assess whether the proposed project will have an adverse impact on cultural or archeological resources. Requested that lead agency contact the Native American Heritage Commission (NAHC) and Native American contacts provide by the NAHC. Provided recommendations to include in mitigation monitoring plan in the event cultural and/or archeological finds are made.	Section 3.5 Cultural Resources
State of California Governor's Office of Planning and Research (OPR) Scott Morgan, Project Analyst	General OPR has identified the agencies involved with the project and issues that may be impacted by the project. OPR requested that copies of responses to the NOP from agencies also be sent to the State Clearinghouse.	Not Applicable

Source: City of Fresno, Responses to NOP for the Westlake Development Project, 2008

1.2.1 SCOPING MEETING

Pursuant to CEQA Guidelines Section 15082(c)(1), the City of Fresno held a scoping meeting for the proposed project on Monday, December 17, 2007 at Fresno City Hall Council Chambers. No citizens or outside agencies attended the meeting, thus there were no verbal or written comments submitted at the Scoping Meeting.

1.2.2 ENVIRONMENTAL ISSUES DETERMINED NOT TO BE SIGNIFICANT

The City of Fresno determined that an EIR would be required for this project and issued a Notice of Preparation (NOP) and Initial Study on December 7, 2007 (see Appendix A), to the State Clearinghouse, responsible agencies, and interested parties. The NOP process is used to help determine the scope of the environmental issues to be addressed in the DEIR. Based on this process and the Initial Study for the project, certain environmental categories were identified as having the potential to result in significant impacts. Issues considered Potentially Significant are addressed in this DEIR. Issues identified as Less Than Significant or having No Impact are not addressed beyond the discussion contained in the Initial Study. Refer to the Initial Study in Appendix A for a discussion of how these initial determinations were made.

In addition, the following subjects within various topical areas were determined not to be significant and are addressed in Section 7, Impacts Found Not To Be Significant:

- Conflicts with Forest Zoning (Chapter 3, Section 3.2 Agricultural and Forestry Resources);
- Conversion of Forest Land to Non-Forest Use (Chapter 3, Section 3.2 Agricultural and Forestry Resources);
- Riparian Habitat/Sensitive Natural Communities (Chapter 3, Section 3.4 Biological Resources);
- Septic and Alternative Wastewater Disposal Systems (Chapter 3, Section 3.6, Geology, Soils, and Seismicity);
- Airports (Section 3.7 Hazards and Hazardous Materials);
- Private Airstrips (Section 3.7 Hazards and Hazardous Materials);
- Wildland Fires (Chapter 3, Section 3.7 Hazards and Hazardous Materials);
- Seiche, Tsunami, or Mudflow Hazards (Chapter 3, Section 3.8 Hydrology and Water Quality);
- Conservation Plans (Chapter 3, Section 3.9 Land Use and Planning); and
- Air Traffic Patterns (Chapter 3, Section 3.14 Transportation/Traffic).

1.2.3 POTENTIALLY SIGNIFICANT ENVIRONMENTAL ISSUES

The NOP and Initial Study found that the following topical areas may contain potentially significant environmental issues that will require further analysis in the EIR. These sections are as follows:

- Aesthetics;
- Agricultural Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology/Soils;
- Greenhouse Gases;
- Hazards/Hazardous Materials;
- Hydrology/Water Quality;
- Land Use/Planning;
- Noise;
- Population/ Housing;
- Public Services;
- Recreation;
- Transportation/ Traffic; and
- Utilities.

1.3 Organization of the EIR

Preceding this chapter is the Executive Summary. Section 15123 of the *CEQA Guidelines* states that an EIR “*shall contain a brief summary of the proposed actions and its consequences...The summary shall identify each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect...areas of controversy known to the Lead Agency including issues raised by agencies and the public, and...issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.*” The Executive Summary of this EIR contains a table (Table ES-1), which summarizes all impacts and recommended mitigation measures, if applicable.

The purpose of Chapter One is to state the nature of the project and inform the reader of the reason for preparing the EIR. It also explains the purposes of CEQA and briefly summarizes the CEQA process.

Chapter Two of the EIR describes the project site location, the project’s objectives, project description, the subsequent permits and approvals required, and the general environmental setting of the project site and surrounding area, and includes a brief discussion of relevant regulations and plans.

Chapter Three details the *environmental setting* as it relates to each topical area described above (e.g., noise, traffic, air quality), identifies and evaluates impacts, and proposes mitigation

measures to reduce impacts to less than significant levels where feasible. The format and content of this chapter are described as follows:

Each impact area includes the following analysis:

INTRODUCTION

Where applicable, a brief introduction is presented under each general topical heading (e.g., Noise; Air Quality). If comments were received on the Initial Study/NOP for a particular topic they are also briefly summarized.

REGULATORY AND PHYSICAL SETTING

The regulatory and physical setting with respect to the environmental topic being discussed are briefly described.

IMPACT EVALUATION CRITERIA

The Impact Evaluation Criteria or Thresholds of Significance standards by which impacts are measured are presented. The purpose is to establish the level at which an environmental impact will be considered significant. For the purposes of this EIR the CEQA thresholds in Appendix G were used; where it was determined that quantitative thresholds exist, they were used in lieu of the qualitative thresholds in the Guidelines.

IMPACT ANALYSIS

The Impact Analysis section presents the analysis of whether there is an impact and whether it can be mitigated, and is comprised of the following subsections:

Impact #Title: Each identified environmental impact is numbered for reference. They are numbered in accord with the Chapter subsection (e.g., #3.8.1).

Conclusion: This is a statement of whether or not an identified impact is significant or less than significant. Significant environmental effects include direct, indirect, short-term, long-term, and unavoidable impacts.

Mitigation Measure #: Each mitigation measure is numbered in accord with its chapter subsection and correlated with the impact to which it applies.

Effectiveness of Measure: For significant impacts, a statement is made regarding whether the impact can be mitigated to a less than significant level or, alternatively, whether the impact is only partially mitigated, unmitigable, unavoidable, and/or irreversible, based on the Impact Evaluation Criteria.

The above format is intended to conform to standards for adequacy of an EIR as described in §15151 of the *CEQA Guidelines*, which states:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and good faith effort at full disclosure.

Chapter Four describes and evaluates alternatives to the proposed project. Per requirements of §15126.6 of the *CEQA Guidelines*, the “no project” alternative must be considered to compare the environmental consequences of the project as proposed to the consequences of taking no action. The potential environmental impacts of these alternatives will be compared to the environmental impacts of the project as proposed.

Chapter Five provides an analysis of cumulative impacts.

Chapter Six discusses other CEQA requirements including Unavoidable Significant Environmental Effects, Significant Irreversible Environmental Changes, Irreversible Changes to the Environment, Growth-Inducing Impacts, and Effects Not Found to Be Significant.

Chapter Seven contains analysis of the topical sections not addressed in Chapter 3.

Chapter Eight contains a full list of references that were used in the preparation of this Draft EIR.

Chapter Nine contains a full list of persons and organizations that were consulted during the preparation of this Draft EIR, as well as the authors who assisted in the preparation of the Draft EIR, by name and affiliation.

In addition to other material, the Appendices include the names of agencies or individuals contacted for information during EIR preparation, technical reports cited in the text, the Initial Study/NOP, and comments received during the early public review period and in response to the Initial Study/NOP.

1.4 Documents Incorporated by Reference

As permitted by CEQA Guidelines Section 15150, this Draft EIR has referenced several technical studies, analyses, and previously certified environmental documentation. Information from the documents, which have been incorporated by reference, has been briefly summarized in the appropriate section(s). The relationship between the incorporated part of the referenced document and the Draft EIR has also been described. The documents and other sources that have been used in the preparation of this Draft EIR include, but are not limited to:

- City of Fresno 2025 General Plan;
- City of Fresno General Plan MEIR (State Clearinghouse No. 2001071097);

- West Area Community Plan (adopted as part of the 2025 Fresno General Plan);
- City of Fresno Municipal Code; and
- City of Fresno Urban Water Management Plan.

These documents are specifically identified in Chapter 8, References of this Draft EIR. In accordance with CEQA Guidelines Section 15150(b), the City of Fresno 2025 General Plan, Fresno Municipal Code, and the referenced documents and other sources used in the preparation of the Draft EIR are available for review at the City of Fresno Development and Resource Management Department at the address shown in Section 1.6 herein.

1.5 Documents Prepared for the Project

The following technical studies and analyses were prepared for the proposed project:

- Agricultural Land Conversion Study, prepared by Quad Knopf [analysis wholly contained in Section 3.2, Agricultural Resources, Land Evaluation and Site Assessment (LESA) modeling output provided in Appendix B];
- Air Quality Analysis, prepared by Quad Knopf (analysis wholly contained in Section 3.3, Air Quality, modeling output provided in Appendix C);
- Biological Evaluation, prepared by Quad Knopf (Appendix D);
- Cultural Resources Study, prepared by Center for Archeological Resources – California State University, Bakersfield (Appendix E);
- Phase I Environmental Site Assessment, prepared by Krazan and Associates (Appendix F);
- Water Supply Assessment, prepared by Quad Knopf (Appendix G);
- Noise Assessment, prepared by Brown-Buntin Associates (Appendix H); and
- Traffic Impact Study, prepared by Peters Engineering Group (Appendix I).

1.6 Review of the Draft EIR

Upon completion of the Draft EIR, the City of Fresno filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (Public Resources Code, Section 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code 21092(b)(3). A Notice of Availability was provided to public agencies and interested parties pursuant to CEQA Guidelines Sections 15085, 15087(c). During the public review period, the Draft EIR, including the technical appendices, is available for review at the City of Fresno, and

the Fresno County Library's Central Library and Fig Garden Branch. The address for each location is provided below:

- City of Fresno, Planning and Development Department
2600 Fresno Street, Third Floor, Room 3043
Fresno, CA 93721
Hours: Monday – Friday, 8:00 AM -5:00 PM
- Central Library
2420 Mariposa Street
Fresno, CA 93721
Hours: Monday – Thursday, 10:00 AM – 7:00 PM; Friday – Saturday, 10:00 AM – 5:00 PM; Sunday, 12:00 PM – 5:00 PM
- Fig Garden Library
3071 West Bullard Avenue
Fresno, CA 93711
Hours: Monday – Saturday, 9:00 AM – 5:00 PM; Sunday, 12:00 PM – 5:00 PM

The document will also be available on the City of Fresno website:

www.fresno.gov/Government/DepartmentDirectory/PlanningandDevelopment/Planning/MajorProjectsunderReview

1.7 Final EIR Certification

This DEIR is being circulated for public review for a period of 45 days. Interested agencies and members of the public are invited to provide written comments on the DEIR to the City of Fresno Planning Department. Upon completion of the 45-day review period, the City of Fresno will review all written comments received and prepare written responses for each comment. A Final EIR (FEIR) will then be prepared incorporating all of the comments received, responses to the comments, and any changes to the DEIR that result from the comments received. The FEIR will then be presented to the City of Fresno for potential certification as the environmental document for the project. All persons who commented on the DEIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

1.8 Mitigation Monitoring

Public Resources Code Section 21081.6 requires that agencies adopt a monitoring or reporting program for any project for which they have made findings pursuant to Public Resources Code 21081 or adopted a Negative Declaration pursuant to 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration.

The Mitigation Monitoring Program for the Westlake Development project will be completed as part of the Final EIR and prior to consideration of the project by the Fresno City Council.

1.9 Distinction Between Review of Environmental Issues and Project Merits

Often during review of an EIR, the public raises issues that relate to the proposed project itself or the project's community benefits or consequences (referred to herein as "project merits"), rather than the environmental analyses or impacts raised in the EIR. Lead Agency review of environmental issues and project merits are both important in the decision of what action to take on a project, and both are considered in the approval process for a project. However, a Lead Agency is only required to respond in its CEQA review to substantive environmental issues that are raised. Certifying an EIR (i.e., finding that it was completed in compliance with CEQA) and taking action on the proposed project rely on procedurally distinct processes and may result in separate decisions made by the Lead Agency.

An example of a project merits issue that is important, but is not a substantive environmental issue, is economic effects that do not result in any physical change to the environment. At any time that the Project comes before the Planning Commission or the City Council, the merits of the Project will be discussed. The Planning Commission and the City Council may hold public meetings or hearings to review Project merits that are separate from those intended for reviewing the EIR and environmental issues.

Generally, an EIR is "...a detailed statement prepared under CEQA describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the effects" (CEQA Guidelines §15362). An EIR is intended to identify significant effects on the environment defined in CEQA Guidelines §15382 as "...substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project...". An EIR is intended to be used by the public, decision-makers, interested individuals, and other agencies and organizations that may have responsibility for a project or project components. CEQA Guidelines §15091 points out that "no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding." Further, CEQA Guidelines §15092 states that "after considering the final EIR and in conjunction with making findings...the lead agency may decide whether or how to approve or carry out the project," which is a separate action from EIR certification. When significant environmental effects cannot be reduced to a less than significant level, the Lead Agency must prepare a Statement of Overriding Considerations, in addition to findings, that documents how project benefits outweigh the unavoidable impacts.

CHAPTER TWO
PROJECT DESCRIPTION

CHAPTER TWO – PROJECT DESCRIPTION

2.1 Project Location

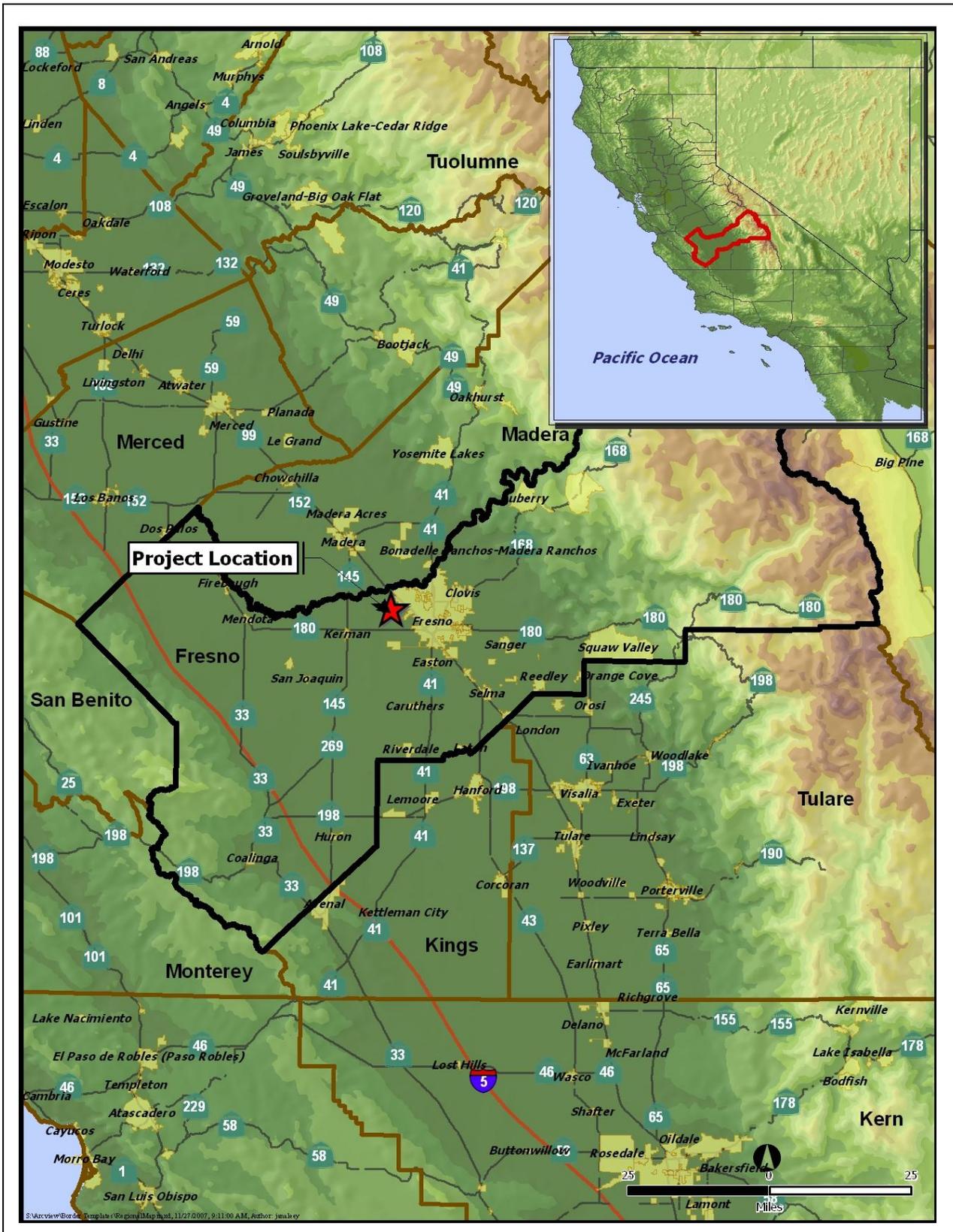
The proposed project is located adjacent to the Fresno City limits, in north-central Fresno County (reference Figures 2-1 and 2-2). The project site is located west of State Route 99 and is bounded by West Gettysburg Avenue, West Shields Avenue, North Garfield Avenue, and North Grantland Avenue. More specifically, the project site is located on the west side of Grantland adjacent to the Fresno City limits and across the street from the Deran Koligian Education Center, a facility owned and operated by the Central Unified School District.

The project site is within the adopted Sphere of Influence (SOI) of the City of Fresno. The project site is outside the corporate limits of the City of Fresno, but has been planned for a variety of urban uses in the 2025 General Plan and portions have been pre-zoned by the City. The Project will be proposed by the applicant for annexation approval by the Fresno County Local Agency Formation Commission. (See full description, later in this Chapter, of agencies, permits and approvals for which this EIR has been prepared.)

2.2 Project Objectives

The overall purpose of the project is to plan and build a master planned community with residential and commercial uses, in a development with a private man-made lake, consistent with the goals, policies and objectives of the 2025 City of Fresno General Plan. A statement of the project's objectives is required by CEQA Guidelines Section 15124(b). The project's objectives are as follows:

- To develop a “Master Planned” community that will provide a variety of housing opportunities with a complete range of densities, styles, sizes, and values which will be designed to satisfy the demand for quality and Housing Element-required housing by the existing and future City population base, in accord with 2025 Fresno General Plan Goal No. 8 (providing opportunity for a variety of housing throughout the Metropolitan Area);
- To provide a quality on-site open space and recreational opportunities in the form of a man-made lake that will include water-based recreation, parkland and a community center, in accord with 2025 Fresno General Plan Goal No. 10 (provide quality open space, park and recreational facilities and programs to support the projected population);
- To provide a strong sense of “community” through the use of street patterns, landscaping, signage, lighting, and project amenities, in accord with 2025 Fresno General Plan Goal No. 9 (provide activity centers and intensity corridors within plan areas to create a mix of land uses and amenities to foster community identity and reduce travel);
- To provide commercial development sufficient to accommodate most of the daily needs of the projected population of the project, in accord with 2025 Fresno General Plan Goal No. 9 (provide activity centers and intensity corridors within plan areas to create a mix of land uses and amenities to foster community identity and reduce travel);



REGIONAL MAP

Figure 2 - 1

- To provide for alternative forms of transportation (pedestrian, bicycle) within the project, in accord with 2025 Fresno General Plan Goal No. 6 (coordinate land uses and circulation system to promote a viable and integrated multi-modal transportation network), thereby reducing dependency upon the automobile;
- To provide opportunities for mixed-uses - residential, professional or commercial - which combine a variety of uses on one parcel;
- To design and build an environmentally and economically sustainable community with safe walking or biking for all residents, including children, to schools and activity centers, in accord with 2025 Fresno General Plan Goal No. 14 (protect and improve public health and safety); and
- To provide for effective groundwater recharge and water conservation through project design.

2.3 Project Description

Granville at Westlake, Inc. (the project Applicant) is proposing to develop a master planned 460 acre project with residential and commercial uses developed around a man-made private lake. The project will consist of approximately 2,600 residential units and up to 295,000 square feet of community and neighborhood commercial buildings. At full buildout, the project would accommodate 7,956 residents (based on a 3.06 person per household ratio). This is the maximum population figure utilized for environmental analysis in this EIR; it is based on the latest available census data. The project will consist of approximately 111 acres of Medium Low Density Residential, 196 acres of Medium Density Residential (approximately 12 acres of which is planned for an elementary school at the northwest corner of Grantland and Dakota Avenue), 34 acres of Medium High Density Residential, 27 acres of Neighborhood/Community Commercial, and 92 acres open space consisting of the 55 acre lake feature, 17 acres of roadway and 20 acres of open space. Figure 2-3 shows the existing City of Fresno General Plan land use designations for the project site and surrounding area. Figure 2-4 shows the approved pre-zoning for a portion of the project site. Table 2-2 summarizes the existing and proposed project area land use designations and zoning.

Generally, the project will be built out in a north to south pattern with excavation and construction of the lake occurring during initial development (see the description of the lake later in this Chapter). Commercial development will occur as build-out of the residential portions of the project occur. Smaller commercial entities that would serve a smaller population may be built out earlier than larger commercial entities that require a larger population base. Specific tenants and timing of commercial build-out have not yet been determined. However, in order to provide a program-level analysis of environmental impacts, phasing assumptions were developed to provide a worst-case scenario (a faster than anticipated construction schedule). The phasing assumptions (see Table 2-1) were used in the Air Quality and Traffic Impact sections (See Chapter 3).

**Table 2-1
Summary of Project Phasing**

Year of Completion	Single Family	Multi-Family	Commercial	Lake
2016	648 units	-	-	Constructed and filled
2018	703 units	274 units	147,500 sq. ft.	-
2020	702 units	273 units	147,500 sq. ft.	-
Total:	2,053 units	547 units	295,000 sq. ft.	-

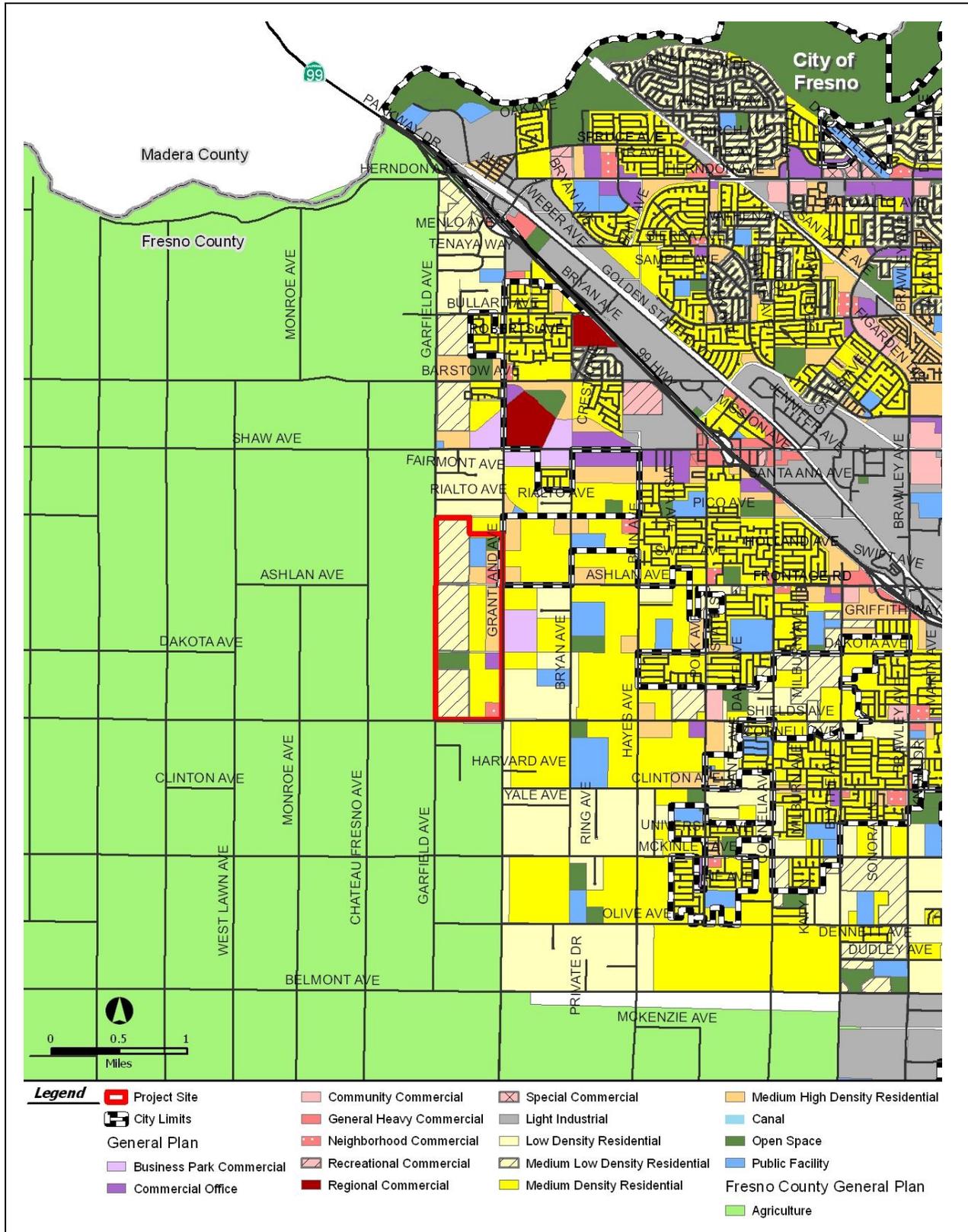
THE LAKE

The focus of the project will be a 55 acre manmade ("artificial") lined lake, oriented in a north-south direction and over one mile in length. In addition to being a recreational amenity (for non-contact activities such as non-motorized boating), the lake will also detain storm water and incidental drainage flows. The Westlake Homeowners Association (HOA) will own and operate the lake facility. The cross-section design of the lake has not yet been finalized but it is anticipated that typical "edge" depths will be 3 to 4 feet and "center" depths 12 feet (see Figure 2-7). It will be designed with north-to-south "stepped" water level control structures to assure required level depths and provide adequate freeboard for drainage detention. Operational activities associated with the 55-acre lake would require the use of chemicals and filtering to maintain the lake and lake “draw-down” for maintenance at ten year intervals. No vegetation will be allowed on the surface or at the shoreline of the lake, in order to eliminate potential mosquito sources. The design of the lake feature will be in accordance with the guidelines established by the City of Fresno in its “Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding”, as applicable.

The approved Water Supply Assessment for the project assumed a worst-case water quantity of approximately 550 acre feet contained within the lake and 224 acre feet per year to maintain lake levels. Such water requirements were included in the Water Supply Assessment for the project approved by the Fresno City Council in 2011.

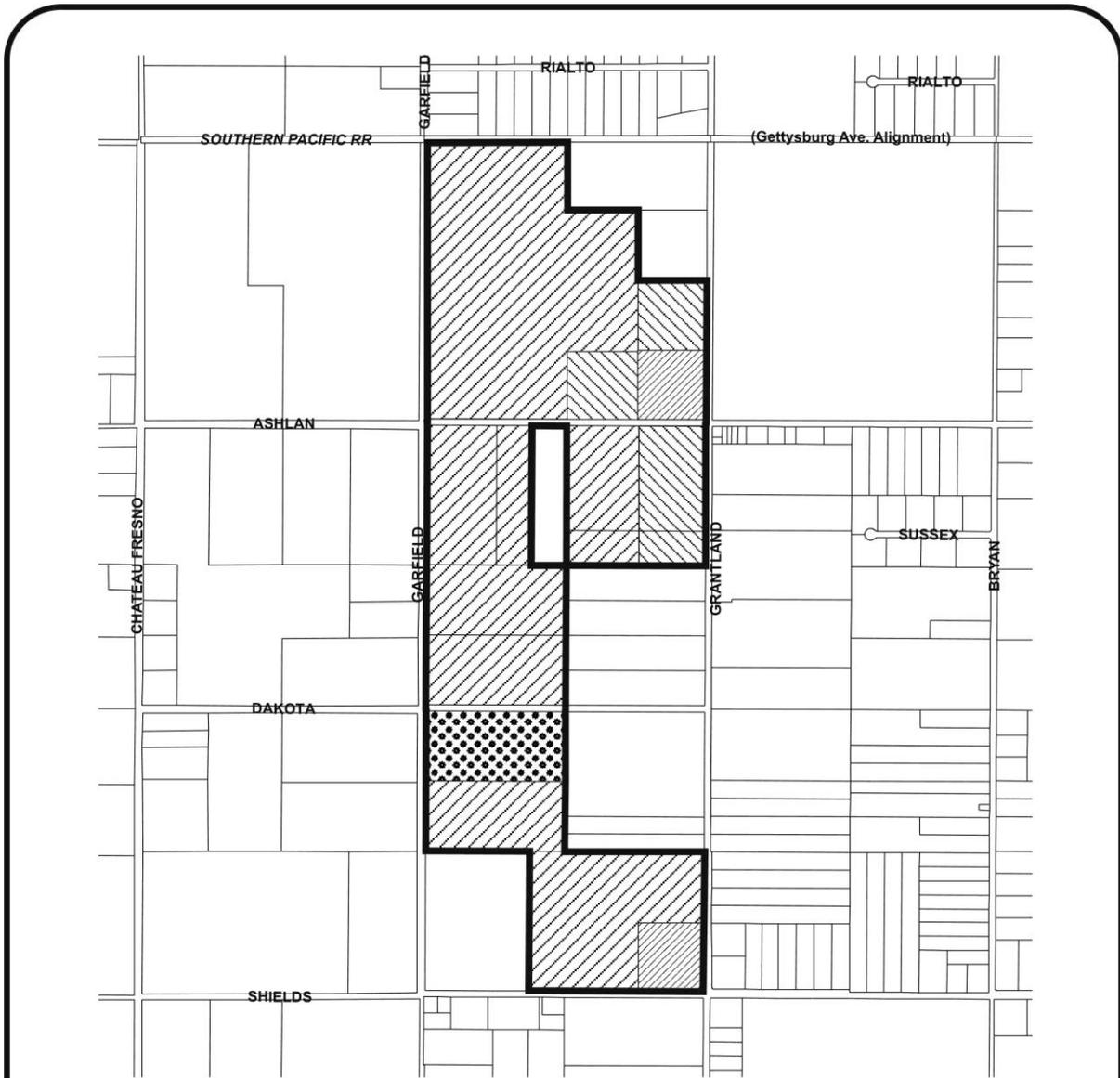
RECHARGE BASIN

The Fresno Metropolitan Area Flood Control District (FMFCD) owns 20 acres of the intended project site at the southeast corner of the Garfield and Dakota alignments that is planned for a ponding/recharge basin. The property is included within the acreage of the project. The ponding/recharge basin site will be reconfigured to be integrated within the design of the project and its function and capacity will be replicated by a 25-acre replacement basin located just south of Shields Avenue outside the project site (see Figures 2-8 and 2-9). The replacement basin will be owned and operated by FMFCD. The basin is a permitted use in the existing agricultural land use designation. It is anticipated that, recharge from the area will be the same as at present because of the diversion of storm drainage and ten-year maintenance drawdown water from the lined lake to the FMFCD recharge basin, effectively replacing current runoff/percolation recharge (see Section 2.8 of this EIR). Although the replacement basin may be outside the project site, anticipated impacts caused by the development of the replacement basin at the new location are assessed in this EIR as required by CEQA.



EXISTING GENERAL PLAN DESIGNATIONS

Figure
2 - 3



LEGEND

- Subject Property
- From AE-20 (County) to R-1/UGM
- From AE-20 (County) to AE-5/UGM
- From AE-20 (County) to R-2/UGM
- From AE-20 (County) to C-1/UGM

VICINITY MAP

REZONE APPLICATION NO. R-04-081
From AE-20 (County) to AE-5/UGM, R-1/UGM, R-2/UGM, C-1/UGM

PLANNING & DEVELOPMENT DEPARTMENT

311-021-26; 311-043-12S, 13S,
A.P.N.: 14, 15, 17S, 18, 26, 28, 29T



NOT TO SCALE

ZONE MAP: 2043, 2143

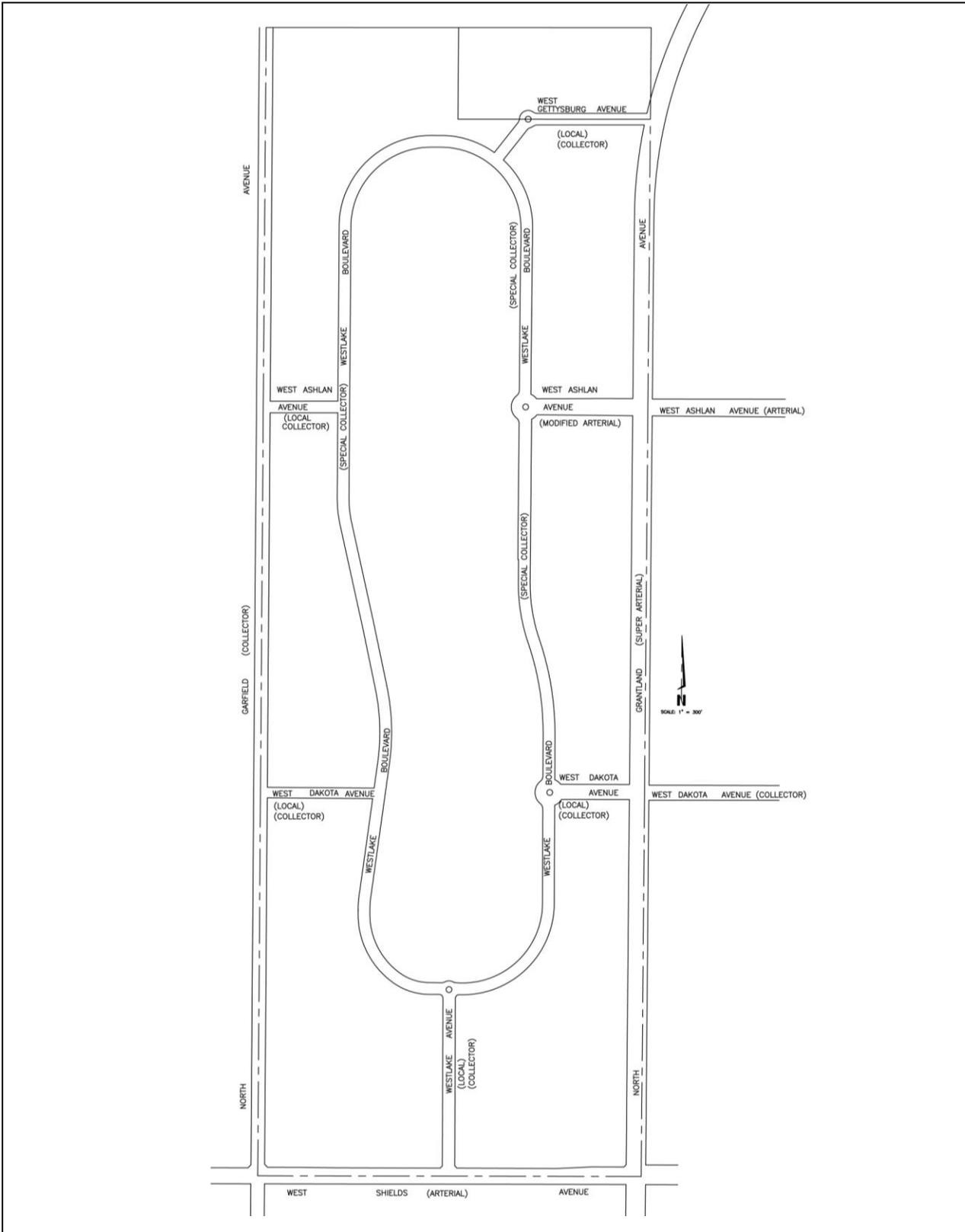
BY/DATE: J.S. / 10-18-04

Btwn Garfield, Grantland, Shields and Gettysburg Aves.



APPROVED PREZONING ON A PORTION OF WESTLAKE DEVELOPMENT PROJECT SITE

Figure 2 - 4



WESTLAKE DEVELOPMENT PROJECT MAJOR STREET LAYOUT

Figure 2 - 6

**Table 2-2
Existing and Proposed Project Area Land Use Designations and Zoning**

Land Use Designation	Acreage Prezoned by the City of Fresno		Allowable Density per Acre	Area not Prezoned ¹	Proposed Acreage	Proposed Zoning
	Acres	Zoning				
Medium Low Density Residential	182	R-1/UGM ¹	2.19 to 6.0 DU/acre		111	R-1/UGM
Medium Density Residential	93	R-1/UGM ¹	4.99 to 10.37 DU/acre		184	R-1/UGM
Medium High Density Residential	40	R-2/UGM ¹	10.38 to 18.15 DU/acre		34	R-2/UGM
Neighborhood Commercial	19	C-1/UGM ¹	25% FAR ²		27	C-1/UGM & C- 2/UGM
Public Facilities (Elementary School)	17	R-1/UGM ¹	---		12	O/UGM & R-1/UGM
Open Space	19	AE-5/UGM ¹	---		96	O/UGM & R-1/UGM
Total	370			90 ³		
Site Total					460	

¹ County Zoning, AE-20, 20 acre minimum

² FAR = Floor area ratio

³ Area not prezoned

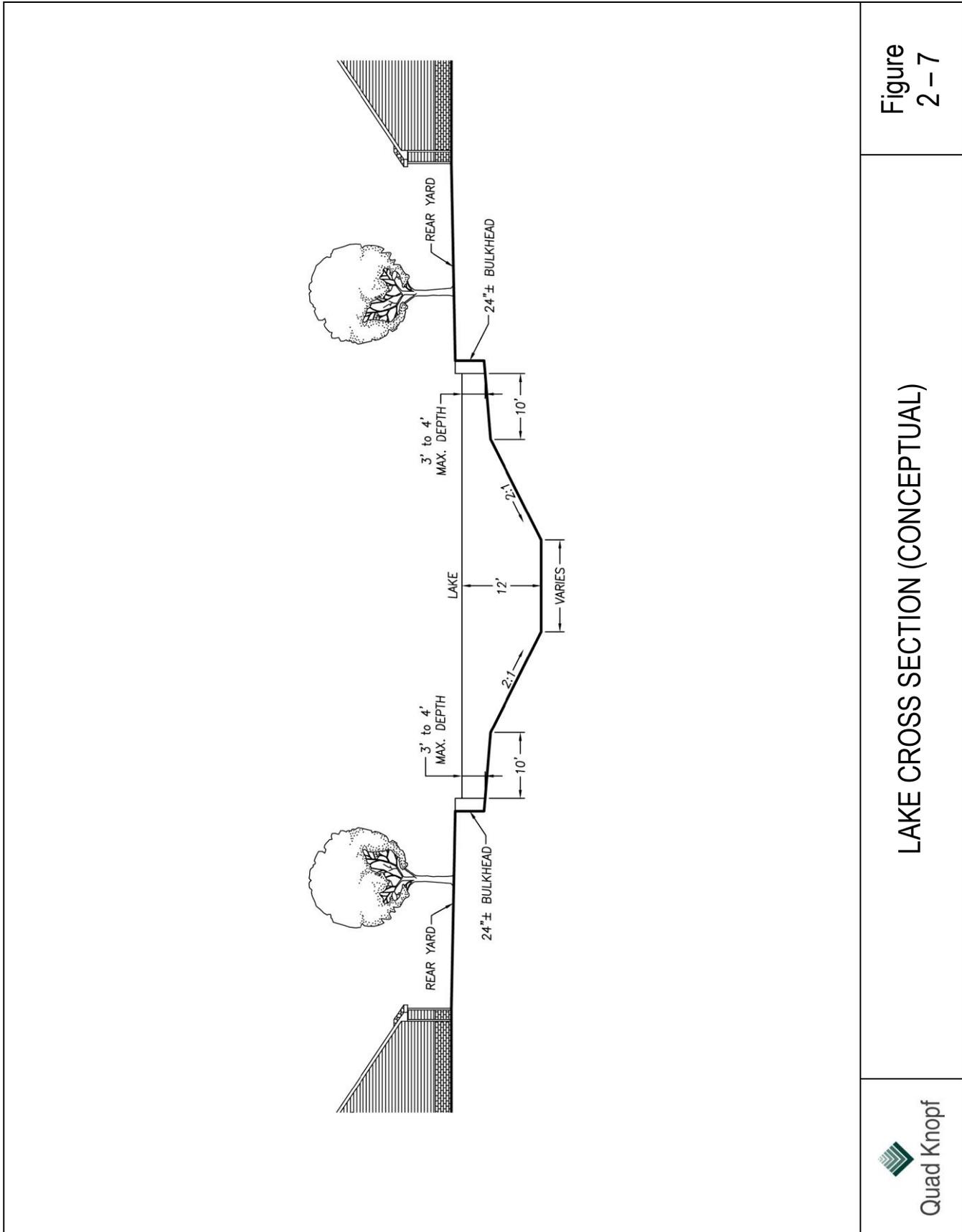
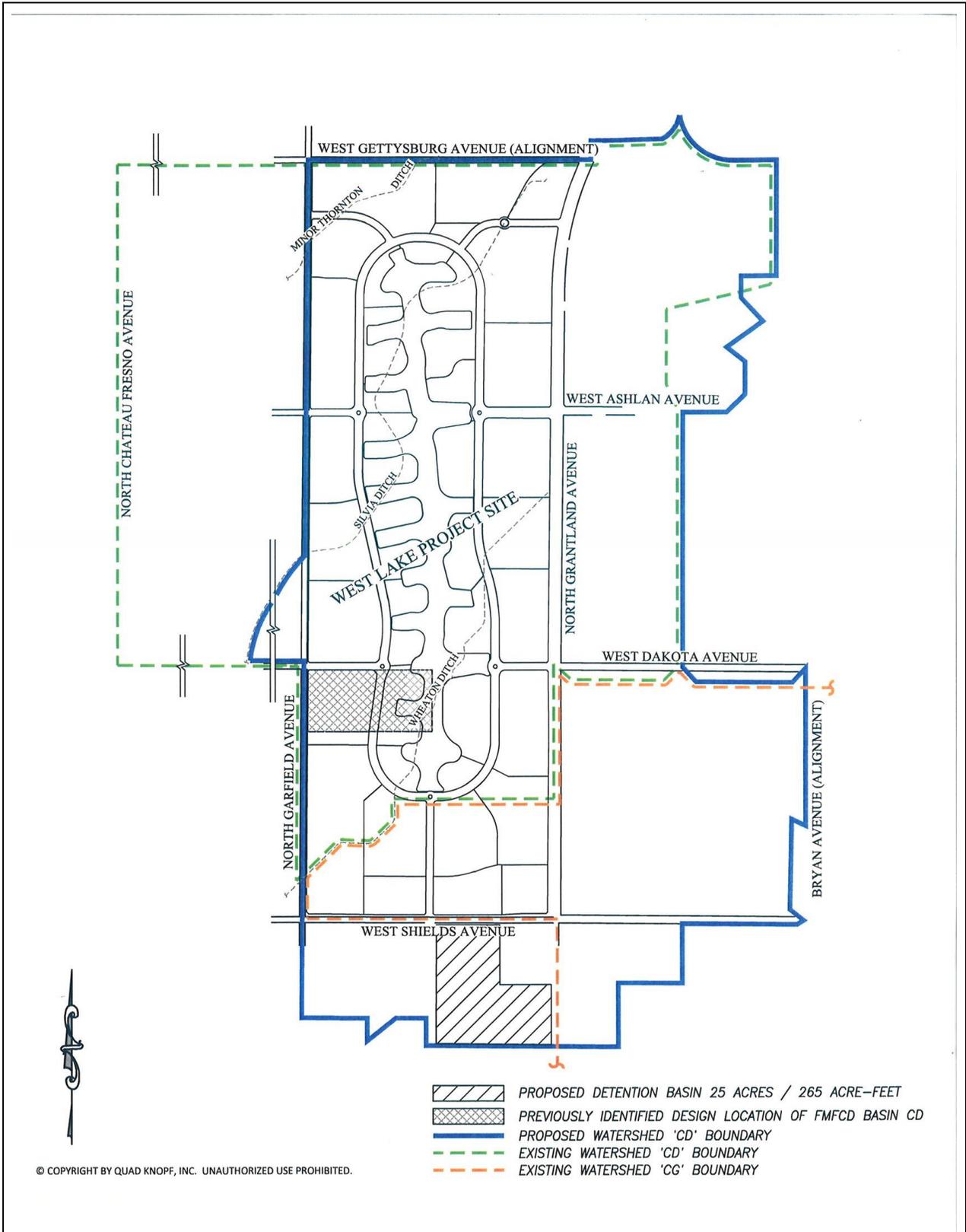


Figure
2 - 7





WESTLAKE PROJECT WATERSHED BOUNDARY

Figure
2 - 8

In reality, groundwater recharge may be slightly increased. Evapotranspiration from either crops or weed growth on the 460 acre site, reducing recharge, will be replaced in part by evaporation from the lake surface and by evapotranspiration from residential lawns and landscaping. The direct recharge from precipitation may thus be less. Indirect recharge from storm drainage runoff will be greater than at present due to greater runoff from impervious surfaces. Accurate numeric "calculations" of these facts, because of the immeasurable variables involved, are not feasible.

Project runoff and drainage will be routed through the lake to a drainage basin replacing, and increasing in size (from 20 to 25 acres), that previously planned for the drainage area which includes the project. Preliminary engineering calculations have verified that the proposed basin is of adequate size and design to serve the drainage area. Final design criteria will be furnished to the Fresno Metropolitan Area Flood Control District before initiation of project development.

There will be no loss of groundwater recharge, or beneficial use through agricultural crop irrigation, as a result of pipelining the FID canals traversing the site. Such recharge will either occur in further unlined facilities downstream from the project site or any water not recharged in unlined canals will, as at present, be used for irrigation.

SITE ACCESS AND CIRCULATION

Access to the project site (see Figure 2-6) from the north or south is primarily from Grantland Avenue, currently developed as a 2-lane road but planned by the 2025 Fresno General Plan as a 4- to 6-lane divided super arterial. State Route (SR) 99 is located approximately 3.5 miles east of the project site. Ashlan and Shields Avenues are both designated as arterials with ultimate 4-lane divided configurations, and Dakota and Gettysburg Avenues are planned to eventually be 4-lane undivided collectors. The project proposes to bifurcate planned major street segments of West Ashlan and West Dakota Avenues west of Grantland Avenue, to modify West Gettysburg Avenue in conjunction with an Official Plan Line modification of that collector street to be processed by the City of Fresno, and a potential plan line modification for West Ashlan and West Dakota.

The circulation system within the project will be public streets and will incorporate roundabouts rather than stop-sign controlled intersections or traffic signals wherever possible. A series of trails/bike lanes are planned that will link the various neighborhoods to each other and to the Central Unified School District facilities on the east side of Grantland Avenue. The major project trail around the lake will tie into smaller trails that are planned to cross the lake on a bridge or series of bridges. An option also exists to reroute the Regional Multiple Use trail from the west side of Grantland Avenue to the interior trail configuration of the project.

As part of the project, the applicant will be responsible for the following improvements:

- Construction of the entire frontage of Grantland Avenue to its ultimate right-of-way configuration prior to full buildout of the project;

- Construction of Gettysburg Avenue west of Grantland Avenue prior to completion of 648 residential units; and
- Construction of Dakota Avenue between Grantland Avenue and Hayes Avenue prior to full buildout of the project.

SUPPORTIVE PUBLIC FACILITIES

The proposed project will be supported by the City of Fresno's municipal water supply system and its wastewater collection system (including the Grantland trunk sewer) and wastewater/treatment disposal facilities. It is bordered by an existing public elementary school, and is proposed to contain a grammar school site. The major serving public utility, Pacific Gas and Electric, has provided a "will serve" letter to the project developer. Chapter Three, Sections 3.13 and 3.16, provides requisite details regarding such supportive public facilities.

LAKE AND CLUB HOUSE FACILITIES

The project applicant states that it intends to create a Homeowner's Association to own and operate the lake facility. Additionally, the Association will own, maintain, and/or operate a clubhouse, public areas adjacent to streets (landscaped setbacks, sidewalks, etc.), and a trail system, for all of which final designs will be prepared concurrent with conditional use permit applications. The clubhouse is anticipated to house various facilities for the residents' use including fitness/workout rooms, lockers, banquet facilities, pools, administrative offices, restrooms, meeting rooms, and a child care center. The applicant anticipates that the building will be 8,000 to 12,000 square feet in size and that it will likely be located on the eastern edge of the lake near West Ashlan Avenue.

PROGRAMMATIC EVALUATION

The project description set forth herein is intended for programmatic evaluation in this EIR. At this point the City's review is limited to the parcel map, plan amendment and rezone applications submitted by the applicant and the applicant's representations as to the proposed project. More specific project build-out configurations and schedules will be determined when the applicant submits conditional use permit(s) applications and a development agreement. At that time, aspects of the project will be subject to additional CEQA analysis, as described in CEQA Guidelines, Section 15168, to determine whether the analysis contained in this EIR adequately covers the proposed activities. If future project activities are determined to be outside the assumptions and analysis in this EIR, additional CEQA analysis may be necessary (See Chapter One).

EXISTING 2025 FRESNO GENERAL PLAN DESIGNATIONS AND ZONING

Currently, the 460-acre project site is designated for urban uses by the 2025 Fresno General Plan. The project site has approved pre-zoning for approximately 370 of the 460 acres (Rezone No. R-04-81 was approved by the Fresno City Council on July 26th, 2005; see Figure 2-4). This zoning would become effective upon annexation of the site; however, the site is currently zoned AE-20

(Exclusive Agricultural District, 20-Acre Minimum Lot Size, Fresno County Zone District) by the County.

Approximately 40 acres of the project site were subject to Williamson Act contracts AP-5269 and AP-5270. Notices of Non Renewal were filed in 1995 and these contracts expired in 2005. There are no additional parcels subject to Williamson Act contracts on the project site.

The Fresno Metropolitan Area Flood Control District owns 20 acres of the project site at the southeast corner of the Garfield and Dakota alignments. The property is included within the acreage of the project. The ponding basin site will be reconfigured to be integrated within the design of the project. Its function and capacity will be replicated in a 25-acre replacement basin located just south of Shields Avenue (see Figure 2-8). The replacement basin will be located on land currently designated as Agriculture by the Fresno County General Plan and zoned as AE-20. The basin is a permitted use in the existing agricultural land use designation. A 'Director Approval' would be required. Alternatively, the basin site could be annexed to the City and zoned/conditional use permitted appropriately. It would be owned and operated by the Flood Control District.

Table 2-2 shows existing general plan land use designations and zoning for the project site.

AGENCIES, PERMITS/APPROVALS, ENVIRONMENTAL REVIEW AND CONSULTATION

Agency Usage of the EIR

The following agencies will use the EIR in their decision-making process:

- The City of Fresno (City);
- The Fresno Local Agency Formation Commission (LAFCo);
- The Fresno Metropolitan Flood Control District (FMFCD);
- The Fresno Irrigation District (FID); and
- The San Joaquin Valley Air Pollution Control District (SJVAPCD).

Permits/Approvals

This Program EIR will be used for approval of the following discretionary entitlements/actions necessary for the project:

- The annexation of approximately 460 acres from Fresno County into the City of Fresno (LAFCo);
- A General Plan Amendment changing some of the land use designations (reference Figures 2-3 and 2-5 and Table 2-2);
- Pre-zoning (reference Figure 2-4 and Table 2-2). Pre-zoning is required to be completed prior to submittal of an annexation application; it will take effect upon annexation;

- A request for approval of the vesting tentative tract map for the broad scale division of the property into 28 residential, commercial, and open space/recreation parcels. (These broad scale parcels will be further subdivided with subsequent multiple tentative and final maps during the pre-construction phase of the project and filed at a later date);
- A Conditional Use Permit (CUP) (to be filed at a later date). The CUP will help define the theme of Westlake and provide details of project design and development standards;
- A Development Agreement to vest development rights, and create mutual obligations and certainties for the Westlake project. The Development Agreement will provide for the orderly development of identified residential units within the project area over the course of a pre-determined buildout schedule. It will also address infrastructure and amenities and will present realistic construction projections. The Development Agreement will provide certainty with respect to cost estimates for proposed mitigation measures and project development fees. Community benefits will be identified. Until such time as the Development Agreement is finally negotiated, all terms, conditions and other components of the Development Agreement will not be fully known. In the event any aspect of the Development Agreement leads to potentially significant environmental effects not otherwise considered in this DEIR, additional CEQA review will be required;
- Approval to relocate and revise the shape of designated drainage and recharge basin 'CD' (see Figures 2-8 and 2-9) and revise drainage district boundaries for drainage basins 'CD' and 'CG';
- Detachment from the Kings River Conservation District; and
- Detachment from the North Central Fire Protection District.

Several applications have been filed or will be filed with regulatory agencies for the above permits and approvals:

1. City of Fresno

Several applications have been filed with the City of Fresno by Granville at Westlake, Inc. These applications include an amendment to the 2025 Fresno General Plan; rezoning of the site consistent with the proposed general plan amendment; and a proposed Vesting Tentative Tract Map (No. 5915) to provide for broadscale subdivision of the project site. A 'Project' Conditional Use Permit application, Development Agreement and subsequent subdivision map applications will be filed at a later date.

A. GENERAL PLAN AMENDMENT NO. A-07-001. In addition to proposing amendments to the land uses as shown in Table 2-2, this application also proposes to re-designate and realign several major roadways that will serve the site, requiring a Plan Line Amendment. Proposed land uses and circulation changes are shown on Figures 2-5 and 2-6.

B. REZONE APPLICATION NO. R-07-008. The applicant proposes rezoning of the project site to implement the land use designations in the General Plan Amendment shown in Table 2-3. The proposed zone districts will become effective upon recordation of annexation to the City of Fresno. The project will therefore be pre-zoned by the City prior to LAFCo's approval of the annexation application.

C. VESTING TENTATIVE TRACT MAP NO. 5915. This vesting tentative tract map will provide for the broad scale division of the property into 28 residential, commercial, and open space/recreational parcels. These broad scale parcels will be further subdivided through the approval of multiple subsequent tentative and final maps during the pre-construction phase of the project, to be filed at a later date.

D. PROJECT CONDITIONAL USE PERMIT AND DEVELOPMENT AGREEMENT (to be filed at a later date).

2. Fresno Metropolitan Flood Control District

- Approval to relocate and revise shape of designated Drainage Basin "CD"
- Approval of revision of Drainage District Boundaries for Drainage Basins "CD" and "CG" (see Figures 2-8 and 2-9)

3. Fresno Local Agency Formation Commission (application to be filed upon approval of City entitlement applications)

- Annexation to the City of Fresno
- Detachment from the Kings River Conservation District and the North Central Fire Protection District

4. Fresno Irrigation District

- Authorization for use of surface irrigation water for the proposed project lake, and for drainage from the lake to relocated Drainage Basin "CE"

5. San Joaquin Valley Air Pollution Control District

- Indirect Source Review Rule permitting
- Grading Dust Control Plan

OTHER AGENCY ENVIRONMENTAL REVIEW AND CONSULTATION

In addition to EIR usage by the listed agencies, and the permits and approvals required by such agencies, the project approval process may involve consultation with and approvals by the California Regional Water Quality Control Board, Central Valley Region (with respect to the lake) or by the California Department of Fish and Game or U.S. Fish and Wildlife Service if pre-construction surveys provide evidence of endangered or threatened species.

2.4 Environmental Setting

As set forth in Section 15125(a) of the State CEQA Guidelines: “An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice or preparation was published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives.”

Chapter Three, Setting, Impacts and Mitigation Measures contains topic-specific additional information on the environmental setting together with analysis of the project’s effect on this setting.

SURROUNDING AREA

Much of the land surrounding the project site is in agricultural production or occupied by rural residential homes and ancillary structures. The CUSD Deran Koligian Education Center is located east of Grantland Avenue and south of Ashlan Avenue proximate to the proposed project site. Large lot single family homes are located along West Rialto Avenue adjacent to, and north of, the project site.

AESTHETICS / VISUAL RESOURCES

The Sierra Nevada mountain range, with elevations ranging from approximately 5,000 to 14,500 feet above mean sea level, is the only natural and visual resource in the project area. Currently, distant views of this mountain range are afforded only during clear conditions. Typical views of the project site and surrounding areas are shown in Figures 3.1-2 and 3.1-3.

AGRICULTURAL RESOURCES

The project site sits on 460 acres of unimproved land. The site is currently (January, 2013) fallow farmland. Previously, this land had been in agricultural production for decades with a mixture of orchard and row crops. There are no parcels within the project site that are under Williamson Act contract.

The project site contains mostly Exeter sandy loam (Es) (87 percent) with minor amounts of San Joaquin sandy loam (ScA) (9 percent), San Joaquin sandy loam shallow (SdA) (2 percent), San Joaquin loam (SeA) (1 percent), and Hanford sandy loam (Hd) and Exeter sandy loam shallow (Et) (1 percent combined). The Fresno County General Plan Background Report characterizes the soils in the project vicinity as excessively drained to moderately well drained soils of young alluvial fans.

AIR QUALITY / CLIMATE CHANGE

The air pollution control agency for the Air Basin is the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is responsible for regulating emissions primarily from stationary sources, certain area-wide sources, and indirect sources. The SJVAPCD maintains air quality monitoring stations throughout the Air Basin. The SJVAPCD, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing the Air Quality Plans (AQPs) for the Air Basin. In addition, the SJVAPCD has prepared the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (2002), which sets forth recommended thresholds of significance, analysis methodologies, and provides guidance on mitigating significant impacts.

The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coastal Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation). The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants.

The Air Basin has an “inland Mediterranean” climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight is a catalyst in the formation of some air pollutants (such as ozone), and the Air Basin averages more than 260 sunny days per year. Temperatures in the Fresno area range from an average high of 98.3 degrees Fahrenheit (°F) in July to an average low of 37.3°F in December. The average annual rainfall in the project area as recorded between 1948 and 2010 was 10.9 inches.

BIOLOGY

Five special-status wildlife species have a possibility of occurring on the proposed project site – burrowing owl, Swainson’s hawk, California horned lark, northern harrier, and San Joaquin kit fox. The project site contains suitable foraging habitat and nesting substrate for the burrowing owl, northern harrier, and California horned lark. A single adult northern harrier was observed on the property during field surveys. There are no occurrence records for Swainson’s hawk within five miles of the project site, but the property occurs within its historical and accepted current range. The two large Eucalyptus trees and two mature Fremont’s cottonwood trees that occur on the project site provide potential roosting habitat for Swainson’s hawks and other raptors and migratory birds. San Joaquin kit foxes are known to occur within four miles of the project site and may occur on the site as transient foragers.

CULTURAL RESOURCES

The proposed project site is located in the San Joaquin Valley which has been occupied by Native American groups for thousands of years. There is evidence of human habitation in the San Joaquin Valley dating to 11,000 years ago, although only a few archaeological sites of this antiquity have been identified at the present time.

Native American groups that inhabited the San Joaquin Valley during ethnographic times were known as the Yokuts, a group of 40-50 recognizable tribes of the Penutian linguistic family.

Upon contact with the Europeans, which first occurred in the late 1700s, the numbers of Yokuts rapidly diminished. Their home of the valley floor was readily accessible to encroachment by settlers. The early pioneers were followed in rapid succession by the farmers with the plow and fences, roads, railroads, and flourishing cities. By the 1910 census, a total of 533 Yokuts were counted in the state. As discussed further in Chapter 3, no cultural resources were identified on the proposed site.

GEOLOGY

The project site is mapped on the United State Geological Survey Topographic Herndon California Quadrangle. It is underlain by recent alluvial deposits of sandy loam, probably of the Modesto Formation. Sandy loam has approximately equal proportions of sand, silt and clay.

HAZARDS

A Phase I Environmental Site Assessment identified several issues associated with past and present uses of the project site that could potentially result in the exposure of persons and environment to hazardous materials: pesticides, abandoned wells, and above-ground storage tanks. These were likely due to previous agricultural activities. However, as identified in Chapter 3.7, mitigation measures will reduce their impact to a less than significant level.

HYDROLOGY

The City of Fresno draws its groundwater supply from the Kings Subbasin of the San Joaquin Valley Groundwater Basin. The Kings Subbasin (DWR Basin No. 5-22.08) underlies Fresno, Kings, and Tulare Counties and has a surface area of 976,000 acres (1,530 square miles).

Groundwater levels in the Fresno area have declined by an average of about 1.5 feet per year since 1990. The slowest groundwater-level declines (less than 0.5 feet per year) were generally observed in the southwestern portion of the City's downtown area, while groundwater-level declines increased to 1.0 foot per year northeast of the downtown area. Average groundwater-level declines as high as 1.5 feet per year were primarily observed in the northern and northeastern (near the Fresno Air Terminal) portions of the City. The largest average annual groundwater-level declines (3.0 feet per year) were observed in the northeastern area of the City, near Clovis.

In DWR Bulletin 118-80, eleven basins, including the Kings Sub-basin, were identified as being in a critical condition of overdraft. The overdraft status of these basins was not re-evaluated by DWR in DWR Bulletin 118-03; however, DWR Bulletin 118-03 does acknowledge the groundwater recharge programs being conducted by the City of Fresno, FID, and FMFCD within the Kings Subbasin to ensure that groundwater will continue to be a viable water supply in the future. One of the City's objectives is to balance its groundwater operations by the year 2025,

utilizing available surface water and reclaimed water, and reducing water demand through conservation measures. It is projected that at that point groundwater pumpage will equal groundwater recharge, thus minimizing the potential for further groundwater level declines and any accompanying water quality impacts.

LAND USE

The site is currently (January, 2013) fallow farmland. Previously, this land had been in agricultural production for decades with a mixture of orchard and row crops. The site is within the adopted Sphere of Influence (SOI) of the City of Fresno and is planned for a variety of urban uses (See Table 2-2). The project site is outside the corporate limits of the City of Fresno. However, the applicant proposes to apply to the Fresno County Local Agency Formation Commission to annex the project property into the City of Fresno. .

POPULATION AND HOUSING

The California Department of Finance estimated the population of the City of Fresno to be 505,009 in 2012. The California Employment Development Department estimated employment in the City of Fresno to be 194,200.

PUBLIC SERVICES

The following describes the public services and related facilities that must be extended to the project site if the project is approved:

- An extension of the City's municipal water system, supplemented by an onsite City well or wells;
- A connection of the onsite wastewater system (sewer system) to the City's Grantland trunk line;
- Onsite storm drainage through the lake to the recharge basin; and
- Public utility services (see Appendix L for "will serve" letter).

Fire Protection

Currently, the site is within the North Central Fire Protection District. The nearest fire station in the NCFPD is Station 22 located 4 miles south of the project site.

The City of Fresno Temporary Fire Station 18, located at 5398 N. LaVentana Avenue is the closest station to the project site and is approximately 1.6 miles north-east of the northern boundary of the project site. Station 16, located at 2510 North Polk is the closest permanent fire station to the proposed project site and is approximately two miles from the site's southeastern boundary.

Emergency Services

American Ambulance provides emergency medical services and transport on a contractual basis for the City of Fresno. American Ambulance paramedics and emergency medical technicians responded to over 135,000 calls originating from 4,000 square miles in Fresno and Kings Counties annually. American Ambulance employs 550 personnel and maintains more than 100 ambulances.

Law Enforcement

The project site falls within the City of Fresno Northwest Policing District. The closest police station (3781 N. Hughes) is located approximately 5.5 miles from the project boundary.

Public Schools

Educational services for the proposed project will be provided by the Central Unified School District (CUSD). CUSD has 19 schools (including one alternative school and one continuation school) and more than 13,500 students. Students (in grades 7-8) from the proposed project would attend the District's Deran Koligian Educational Complex at the northwest corner of Ashlan and Bryan Avenues. A high school is proposed at the same Education Complex; however, until that location is open, students (in grades 9-12) from the project would attend Central High School – East Campus located 2 miles from the project site boundary, just west of State Route 99 on Gettysburg. The District will need to construct a new elementary school within the vicinity of the proposed project to accommodate the new students generated at the K-6 grade levels. A 12-acre parcel within the project boundaries is presently planned for an elementary school site.

PARKS AND RECREATION

There are no recreational facilities located on the project site. The Deran Koligian Education Center, includes a stadium and track facility located adjacent to the project sites southeastern boundary. Stallion Park is the closest neighborhood park to the project site and is located 6.6 miles northeast of the project site. The closest regional park is Woodward Park, which is located 12.5 miles northeast of the project site.

TRANSPORTATION AND TRAFFIC

Access to the project site from the north or south is primarily from Grantland Avenue, currently developed as a 2-lane road but planned by the 2025 Fresno General Plan as a 4- to 6-lane divided super arterial. State Route (SR) 99 is located approximately 3.5 miles east of the project site. Ashlan and Shields Avenues are both designated as arterials with ultimate 4-lane divided configurations, and Dakota and Gettysburg Avenues are planned to eventually be 4-lane undivided collectors.

Fresno Area Express (FAX) provides bus service in the Fresno area. Bus service is not currently provided to the Project site. The nearest bus route (Route 9) does not travel west of Polk Avenue.

In general, bicycle and pedestrian facilities do not currently exist in the vicinity of the Project site, with the exception of limited sidewalks and Class II bike lanes that have been constructed along the frontage of the developed portions of the Central Unified School District Koligian Education Center.

High Speed Rail

The California High Speed Rail Authority has completed a Draft Environmental Impact Report and a Final Environmental Impact Report for the Merced to Fresno section of the High Speed Rail project. The California High Speed Rail Authority has also completed a revised Draft Environmental Impact Report for the Fresno to Bakersfield section. Through Fresno, the alternatives are parallel to, and are in the vicinity of, SR 99 and the UP railroad. The proposed High Speed Rail is not located adjacent to the proposed Westlake project.

UTILITIES

Groundwater

The City of Fresno Department of Public Utilities, Water Division, would provide water service to the project site. The City of Fresno obtains the majority of its delivered water supply from groundwater. The City lies within the Kings Subbasin of the San Joaquin Valley Groundwater Basin of the Tulare Lake Hydrologic Region. Although groundwater levels in the Subbasin have been in decline, the Kings Subbasin is not adjudicated, so there is no legislated limit on groundwater pumping. In general, groundwater levels in the Fresno area have declined about 1.5 feet per year since 1990, though there has been some localized rebounding in Northeast Fresno as a result of the reduction in groundwater extractions and the incorporation of the North East Surface Water Treatment Facility. The City's current Urban Water Management Plan, adopted in August, 2008, has identified projects that, if constructed and implemented, will bring the water supply into balance by 2025. The project developer/applicant will be required to extend a line to the project site from the existing water distribution system and to fund/construct needed onsite wells.

Wastewater

The City of Fresno Department of Public Utilities, Wastewater Management Division provides wastewater collection and treatment to the City of Fresno. A major trunkline adjacent to the project site, the Grantland Trunk Sewer, will convey wastewater to the City's Water Reclamation Facility.

Storm Drainage

The project site lies within the jurisdictional boundaries of the FMFCD. The FMFCD is responsible for planning, constructing, and maintaining urban storm drainage collection and disposal facilities necessary to meet the needs of urban development, as well as to control runoff from areas outside the metropolitan area.

Solid Waste

The City of Fresno Department of Public Utilities, Solid Waste Division contracts with private companies to provide solid waste, recycling, and green waste collection services to residential and commercial customers within the city limits.

Energy

Pacific Gas and Electric Company (PG&E) would provide electricity and natural gas service to the project site.

CHAPTER THREE

SETTINGS, IMPACTS AND MITIGATION MEASURES

3.1 Aesthetics

INTRODUCTION

This section addresses project impacts on the visual and aesthetic character of the proposed project site and vicinity. Issues include potential impacts to scenic views and vistas, potential disturbance of scenic resources (i.e., trees, rock outcroppings, etc.), alteration of agricultural uses (from the perspective of aesthetics), and impacts associated with development of the proposed project, including light or glare.

3.1.1 REGULATORY AND PHYSICAL SETTING

Regulatory

FEDERAL

There are no specific federal regulations applicable to aesthetic resources.

STATE

There are no specific State regulations applicable to aesthetic resources.

Subdivision Map Act

The Subdivision Map Act does not contain specific regulations applicable to aesthetic and light and glare impacts; however, it does govern the subdivision of land within the State. Land cannot be divided in California without local government approval. Dividing land for sale, lease or financing is regulated by local ordinances based on the State Subdivision Map Act (commencing with Government Code Section 66410). The local general plan, zoning, subdivision, and other ordinances govern the design of the subdivision, the size of its lots, and the types of improvements (street construction, sewer lines, drainage facilities, etc.). In summary, land may not be subdivided unless it is consistent with local standards, many of which are applicable to aesthetic resources.

LOCAL

City of Fresno General Plan

The 2025 General Plan includes policies and standards related to aesthetics, light and glare which are applicable to all development within the City. The policies and standards are implemented by City staff through the Conditional Use Permit or Site Plan Review processes. The project will be subject to the following General Plan policies and standards:

Urban Form Element

- C-11-d. Policy* Buffer multi-family development projects from adverse environmental impacts (e.g., indoor and outdoor noise, glare) to the same extent as single-family development projects.
- C-12-c. Policy* Locate office projects to provide a transition between more intensive commercial uses and sensitive uses and sensitive residential uses.
- C-12-e. Policy* Regional shopping centers shall have internally unified building design, landscaping, and signage standards.
- C-19-a. Policy:* Use a well-balanced variety and spacing of trees with standards established by the city's Parks Division to establish visual continuity for each streetscape and to achieve coherent linkages between public and private spaces.
- C-19-b. Policy:* Properties fronting on major streets shall be improved with landscaped setbacks and sidewalks which reflect a continuity of design, depth, and planting materials. This should include unified design of street furniture and walls.
- C-19-c. Policy:* Pursue, through use of both public and private funding, full landscaping of all completed median islands.
- C-19-d. Policy:* Where appropriate, local streets should be developed as "urban parkways" with landscaping and pedestrian spaces.
- C-19-e. Policy:* Working with utility companies the city will continue to pursue the undergrounding of overhead utilities as feasible.
- C-20-e. Policy:* Development projects shall include aesthetic measures which support functionality and add to the appearance and livability of the community.
- C-21-a. Policy:* An architectural theme shall be established for each development, including visually enhanced architectural features and building materials (which shall be applied throughout the development, particularly where visible to street frontages and adjacent properties).
- C-21-b. Policy:* In order to promote attractive external appearances and appealing living environments, design measures should be utilized to avoid large scale massive and repetitive "institutional" visual appearances, and to provide a more varied, small scale appearance suggestive of single-family residential development.

- C-21-c. Policy: The design measures should include variations of the building footprints with indentations, projections and offsets; variations in the exterior walls using a variety of materials and features such as balconies, bay windows, verandas and entryways and varied roof forms with slopes, ridges and valleys suggestive of single-family residential structures.*
- C-21-d. Policy: Utilize the cluster planned development criteria and standards where applicable (FMC Section 12-306-N-21).*
- C-21-e. Policy: Design pedestrian and vehicular entrances, walkways, parking areas, open spaces, common facilities, structures and fencing to inhibit uncontrolled access by nonresidents and facilitate surveillance by residents, property managers and law enforcement or security personnel. Vehicular access gates may be used when they can be safely installed.*
- C-21-f. Policy: Fences and walls along street frontages shall be designed to be architecturally compatible, aesthetically pleasing, and durable with easy pedestrian access to nearby commercial uses.*
- C-21-g. Policy: Ensure adequate covered parking and overall supply of parking to reflect the actual parking demand of these residential projects and permit an evaluation of a variety of measures such as fully-enclosed garages, multi-story parking structures, underground parking and shared facilities. In the comprehensive update of the zoning ordinance, the standards for the parking requirements for residential projects shall be reevaluated.*
- C-20-f. Policy The project developer shall provide a set of documents and drawings that will allow assessment of the final building product. Materials, texture, and colors shall be noted on the original special permit drawings and on construction plans.*
- Development projects shall appropriately interface with adjacent properties.*
 - High-contrast or gaudy building facades, lighting and signage which create disharmony with adjacent properties, or which draw undue attention, should be avoided.*
 - Locate service truck access, loading zones, and waste storage/recycling areas at the maximum practical distance from residences and other living quarters.*
 - Shopping centers shall have internally unified building design, landscaping, and signage.*

- *Building facades shall include design features and decorative treatments. Visible sides of buildings shall not develop with featureless, "blank" walls.*
- *Adequately screen roof-mounted mechanical equipment, and ensure that such equipment adheres to noise standards as set forth in the General Plan Noise Element and City Noise Ordinance.*
- *Apply and enforce the city's Sign and Outdoor Advertising Ordinances. Pursue the amortization and removal of nonconforming and illegal signs and outdoor advertising structures.*
- *Landscaping and parking lot shading shall be employed for environmental and aesthetic improvement, while observing safe lines of-sight along access routes.*
- *Exterior lighting shall not create glare for neighboring properties, but shall provide adequate on-site lighting for safety and security purposes.*

City of Fresno City-Wide Design Guidelines Adopted for the 2025 Fresno General Plan

The City's Design Guidelines include site design, building design, landscaping, and signage elements. Each of the elements includes considerations that will provide continuity in standards that will lead to improved visual and built environments throughout the City. The Design Guidelines encourage energy efficiency, bicycle access and storage, and visually pleasing settings that provide consistency throughout a neighborhood or development. The Design Guidelines are implemented by City staff on projects as they move through the site plan review process and are intended to facilitate development that is compatible with existing land uses and that foster certain activities (i.e. pedestrian friendliness, safety, passive open space, etc.).

West Area Community Plan

The West Area Community Plan includes policies and standards related to aesthetics, light and glare which are applicable to all development within the Plan area. The policies and standards are implemented by City staff through the Conditional Use Permit or Site Plan Review process. The project will be subject to the following West Area Community Plan policies and standards:

- W-3-b. Policy: Provide a 20-foot landscaped setback along all designated arterial streets. Planned elements of the city's master trail system may be located partially within this setback.*
- W-3-c. Policy: Provide a 15-foot landscaped setback, or the setback required by the Fresno Municipal Code, whichever is greater, along all collector streets and along the Gettysburg alignment transportation corridor. Planned*

elements of the city's master trail system may be located partially within this setback.

W-6-d. Policy: The following design guidelines shall be considered for application to all multiple-family residential development entitlements adjacent to land that is planned for single-family and/or rural residential use. These measures are to be applied as considered appropriate by the City of Fresno in order to best protect the health, safety, and welfare of the community, and pursuant to the city's special permit issuance and appeals process. These measures may also be waived where the adjacent planned single-family residential land is developed with, or approved for, a nonresidential use; or where the multiple-family units are being fully integrated into a single-family development by means of density transfer, inclusionary zoning, or a planned development entitlement.

- *Locate common use outdoor recreational areas, game courts, swimming pools, and solid waste collection areas on portions of the development site away from existing or planned single-family and rural residential uses.*
- *Separate parking areas, carports, garages, and access drives other than main access drives from abutting properties zoned or planned for single-family or rural residential use with a protected landscape setback at least 5 feet wide, and with a solid masonry wall 6 feet high, along the property line.*
- *Separate main access drives from abutting properties zoned or planned for single-family or rural residential use with a protected landscape setback at least 15 feet wide and with a solid masonry wall 6 feet long along the property line.*
- *Provide a 40-foot separation between multiple-family buildings greater than one story in height and property zoned or planned for single-family or rural residential use.*
- *Direct the orientation of second-story multiple-family windows away from adjacent single-family uses, or provide adequate setbacks and/or open space landscape screens.*

W-7-g. Policy Within an area 100 feet wide abutting property zoned, planned, or otherwise approved for residential use, nonresidential developments' exterior lighting for parking, access drives, and loading areas shall be shielded and directed so as to prevent the residential properties from having line-of-sight visibility of the light source.

Fresno Municipal Code

The City of Fresno Municipal Code Zoning Ordinance is the primary document that implements the General Plan and regulates the form and character of development in the City. The Zoning Ordinance outlines, in detail, permitted land uses, property development standards; procedures for entitlement and subdivision review within the City limits. City staff ensures that projects comply with development standards through the Conditional Use Permit and Site Plan Review Process. Projects must be consistent with the standards in order to receive approval.

The project proposes the following zoning:

**Table 3.1-1
Proposed Zoning**

Proposed Land Use Designation	Gross Acres	Proposed Zoning
Medium Low Density Residential	111	R-1/UGM
Medium Density Residential	196	R-1/UGM
Medium High Density Residential	34	R-2/UGM
Neighborhood and Community Commercial	27	C-1/UGM & C-2/UGM
Roadways, Lake Feature, Open Space	92	O/UGM & R-1/UGM
Total	460 acres	

The Municipal Code Zoning Ordinance establishes the following policies related to aesthetics that are applicable to the proposed project:

Section 12-211 “R-1” Single Family Residential District

No building or structure erected in this District shall have a height greater than 35 feet.

No accessory buildings erected in this District shall have a height greater than one story, not to exceed 12 feet. Accessory buildings are subject to the provisions of subsection 12-306-N-1.

All fences, hedges and walls shall conform to the provisions of Section 12-306-H. Fences may not exceed three feet in height unless they are wrought iron in which case they may be up to four feet in height. Fences shall not exceed six feet in height in rear yards.

Section 12-212 “R-2” Low Density Multiple Family Residential District

- No building or structure erected in this District shall have a height greater than 35 feet.
- No accessory buildings erected in this District shall have a height greater than one story, not to exceed 12 feet. Accessory buildings are subject to the provisions of subsection 12-306-N-1.
- All fences, hedges and walls shall conform to the provisions of Section 12-306-H. No fences/walls are allowed within landscaped areas.

Section 12-217 “C-1” Neighborhood Shopping Center District

- No building or structure erected in this District shall have a height greater than 35 feet.
- All fences, hedges and walls shall conform to the provisions of Section 12-306-H.
- Outdoor Advertising subject to approval of a shopping center Master Sign Program pursuant to Section 12-1708 or a sign permit application pursuant to Section 12-1707, and subject to the following limitations:
 - Temporary real estate sign – maximum area of 48 square feet, maximum height of 10 feet;
 - Directional signs – maximum area of 24 square feet, maximum height of eight feet;
 - One freestanding sign for any permitted nonresidential use not to exceed 80 square feet in area or 20 feet in height;
 - The sign shall not be blinking, flashing, rotating or animated and shall have a geometrical shape such as a rectangle, square, circle, triangle, pentagon, hexagon, octagon, regular polygon, trapezoid or ellipse. Lights used to illuminate the sign shall be installed to concentrate the illumination on the sign and to minimize glare upon a public street or adjacent property; and
 - A freestanding sign shall be installed so that its display is visible primarily from the traffic on the street on which the sign has frontage.
- Signs indicating the name and nature of the occupancy or the name and address of the building or the name and address of the owner (hereinafter called "Occupancy signs"). These signs shall be placed on an exterior wall or facade of the building, or suspended from the underside of an exterior building surface, with a minimum clearance of eight feet from the bottom of the sign to the walkway, according to the following regulations:
 - The total area of all occupancy signs mounted on, hanging from or parallel with any exterior wall or facade of any occupancy shall not exceed 10 percent of the total area of said exterior wall or façade;
 - No portion of an occupancy sign may extend above the maximum height of the building on which it is placed;
 - The total area of occupancy signs permitted for any exterior wall or facade of any occupancy need not be less than 40 square feet;

- Occupancy signs may be attached to an exterior wall or facade in which there is located a customer entrance to said occupancy or which faces a parking area serving said occupancy, or which faces a public street other than a local residential street; and
- Occupancy signs shall be lighted only in accordance with the provisions of Section 12-217.5-K-c-3.
- Signs designated by governmental agency indicating authorized testing services available on the premises, signs indicating credit cards accepted, and signs indicating trading stamps offered, subject to the following regulations:
 - Such signs shall be located adjacent to each other in a single assemblage, the total combined area of which shall not exceed twenty square feet;
 - One such assemblage shall be allowed on each street frontage;
 - Each assemblage shall be located flat against an exterior wall or facade of the building, canopies excluded, and may not extend above or beyond said wall or façade;
 - Such signs shall be of durable construction and shall be affixed to the building. No portable signs shall be permitted; and
 - Such signs shall be illuminated only in accordance with the provisions of Section 12-217.5-K-1-c(3).
- One free-standing fuel price sign, conforming to subsections 12-217.5-K-1-c(3), (4) and (5), h and i and containing the information specified in Section 12-306-N-32, for any automobile service station, in addition to any other permanent free-standing signs permitted in this district. The price sign shall not exceed a height of 10 feet or an area of 60 square feet, exclusive of any supporting structure.
- One free-standing monument sign, having a maximum area of 32 square feet and a height of five feet, in addition to any other permanent, free-standing signs permitted in this district, for each detached structure, other than an automobile service station, which is located within 50 feet of a major street and included in a planned, integrated shopping center.
- A maximum of four free-standing permanent flagpoles, not to exceed 25 feet in height and conforming to Section 12-1710(h), may be permitted for each planned, unified development.
- All free-standing signs shall be set back a minimum of 45 feet from any rear or interior side property line which adjoins a residential district. Signs may be installed within street setback areas provided that no part of the sign overhangs a parking lot, vehicle maneuvering area, private or public sidewalk or public right of way. The provisions of Section 12-306-N-9 shall apply to any signs placed in a utility or landscape easement.

- No sign shall be erected at the intersection of any streets in such a manner as to obstruct free and clear vision of operators of motor vehicles, or at any location where, by reason of the position, shape or color, it may interfere with, obstruct the view of, or be confused with any authorized traffic sign, signal or device; or which makes use of the words "STOP," "DANGER," or any other word, phrase, symbol or character in such manner as to interfere with, mislead or confuse traffic. No red, green or amber lights or illuminated signs may be placed in such position that they reasonably can be expected to interfere with or be confused with any official traffic control device or traffic signal or official directional guide signs.
- All signs shall conform to the provisions of Article 17 of Chapter 12.

Section 12-218 “C-2” Community Shopping Center District

- No building or structure erected in this District shall have a height greater than 35 feet.
- Outdoor advertising subject to the same provisions of the “C-1” District, with the following exceptions: No individual free-standing nonresidential advertising sign shall exceed one hundred twenty square feet in area or twenty feet in height on a site improved with a planned unified shopping center for a community.

Section 12-204 “O” Open Space Conservation District

- No building or structure erected in this District shall have a height greater than 35 feet, with exceptions for public service structures and other buildings or structures the Planning Director determines are necessary for reasonable operation of permitted uses.

Physical Setting (Existing)

Aesthetic Character

REGIONAL

The City of Fresno is located in central Fresno County within the eastern half of the San Joaquin Valley floor. The Fresno area is characterized by flat relief of approximately 250 to 300 feet above mean sea level. Generally, agricultural uses surround Fresno on the west, and south sides, with the San Joaquin River to the north, and the City of Clovis and rural residential uses to the east. Fresno is approximately 9 miles from the Sierra Nevada foothills to the east. The City of Fresno is centrally located in the State with San Francisco approximately 180 miles to the north and the Los Angeles area approximately 180 miles to the south.

LOCAL VICINITY

Project Site

The proposed project site is located on the west side of Fresno adjacent to the City limits and is bounded by West Gettysburg Avenue on the north, West Shields Avenue on the south, North Garfield Avenue on the west, and North Grantland Avenue on the east. The project site sits on 460 acres of unimproved land. The site is currently (January, 2013) fallow farmland. Previously, this land had been in agricultural production for decades with a mixture of orchard and row crops. There are two Fresno Irrigation District (FID) irrigation canals running in a northeast-southwest direction that have been periodically used for seasonal crop production in the past. Figures 2-2 and 2-3 show the proposed project location and Figure 3.1-1 shows an aerial view of the proposed project site and surrounding land. The Minor Thornton Canal is located in the northwest corner of the project site, and the Silva No. 47 Canal courses through the northern half of the site. Development of the site as proposed by the developer will require these canals to be moved underground through the project site. These canals will continue to provide irrigation water to land south of the project site. The location of the proposed 25-acre replacement recharge basin (just south of Shields Avenue) is currently in agricultural production.

Surrounding Areas

As shown in Figure 3.1-1, much of the land surrounding the project site is in agricultural production or occupied by rural residential homes and ancillary structures. The new CUSD Deran Koligian Education Center is located proximate to the proposed project site east of Grantland Avenue and south of Ashlan Avenue. Large lot single-family homes are located adjacent to, and north of, the project site along West Rialto Avenue.

The Sierra Nevada, with elevations ranging from approximately 5,000 to 14,500 feet above mean sea level, is the only natural and visual resource in the project area. Currently, distant views of these distant mountains are afforded only during clear conditions. Typical views of the project site and surrounding areas are shown in Figures 3.1-2 and 3.1-3.

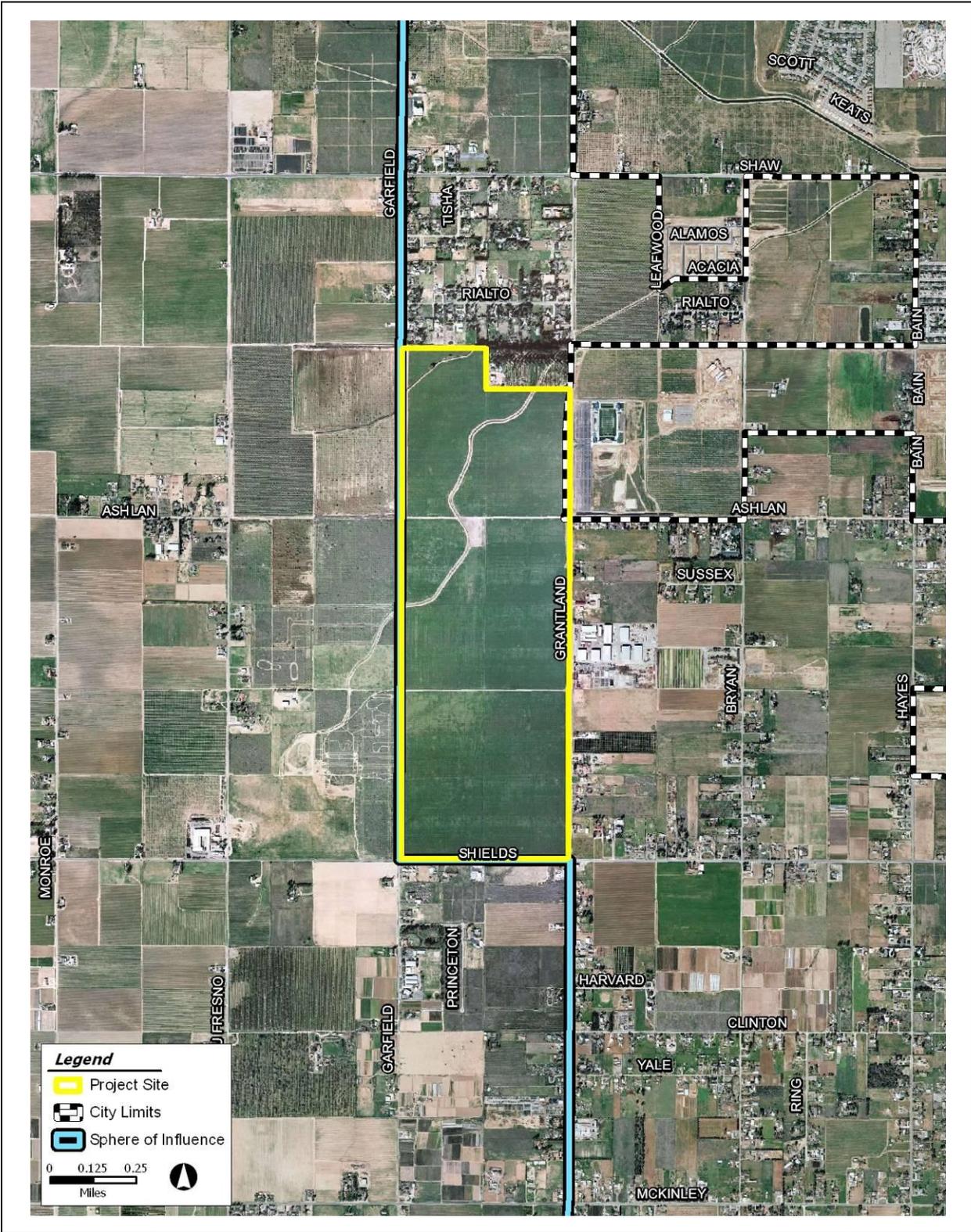
Light and Glare

PROJECT SITE

The project site is currently undeveloped and contains agricultural land that has been intermittently under production. No sources of light or glare exist within the project site.

SURROUNDING AREAS

Sources of light and glare in the surrounding areas include lighting fixtures associated with the scattered rural residential developments, the Koligian Education Center, and light industrial land uses. Additional light and glare sources include motor vehicles traveling along Grantland and Shields Avenues. There are no existing street lights in the vicinity of the project site.



AERIAL VIEW OF THE PROJECT SITE AND VICINITY

Figure 3.1-1



View from the Grantland/Ashlan intersection looking east away from the project site.



View from the Grantland/Ashlan intersection looking west into the project site.



PHOTOGRAPHS OF PROJECT SITE AND SURROUNDING USES

Figure
3.1-2



View from Grantland looking southeast at the nursery across the street from the project site.



View from the Grantland/Shields intersection looking east away from the project site.



PHOTOGRAPHS OF PROJECT SITE AND
SURROUNDING USES

Figure
3.1-3

IMPACT EVALUATION CRITERIA

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with aesthetics/visual resources if it would:

- 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 or county designated scenic highway or county designated scenic road.*
- c) *Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view.*
- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

3.1.2 IMPACT ANALYSIS

The Initial Study, included as Appendix A, found that impacts associated with scenic resources visible from a state or county designated scenic highway would be less than significant. This impact will not be further addressed in the Draft EIR.

The Initial Study also concluded that the proposed project would have a less than significant impact to scenic vistas; however, this issue has been included in the following discussion due to concerns subsequently expressed regarding potential project-related impacts to scenic vistas.

Urban form, building design, commercial signage, integration of a 55 acre manmade lake feature at the core of the proposed project and many other factors will affect the appearance and aesthetics of the proposed project site. Additionally, implementation of the proposed project will result in light and glare impacts. These impacts will be addressed in the following analysis.

Impact #3.1.1 – Have a substantial effect on a scenic vista.

A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The project site itself (including the proposed recharge basin) does not provide any visual resources that would be considered a scenic vista because it primarily consists of agricultural lands that are relatively common in other areas of the County and are not unique to the surrounding visual setting. Further, onsite agricultural production activities have altered the natural landscape; therefore, the project site does not provide views of the indigenous natural landscape. Although the current land uses provide views of an agricultural landscape that is representative of the region, the project site does not contain resources that are exemplary of the agricultural history of the area (such as historic structures

or landmarks; see Section 3.5, Cultural Resources). Views of the project site are not unique in the region.

The project site is generally flat with unobstructed views of the surrounding agricultural lands, educational, rural residential and light industrial land uses. Neither the project site nor any of the surrounding land uses contains features typically associated with scenic vistas (e.g. ridgelines, peaks, overlooks). Therefore, little opportunity exists for project development to obscure views of scenic vistas that may be located within the immediate area of the project site.

As stated previously, the Sierra Nevada Mountains are the only natural and visual resource in the project area. Views of these distant mountains are afforded only during clear conditions. Due to poor air quality in the valley, this mountain range is not visible on most days. Distant views of the Sierra Nevada Mountains would largely be unaffected by the development of the project because of the distance and limited visibility of these features. The proposed zoning designations for the project site allow buildings up to 35 feet; therefore, some obstruction of these features may occur on and, potentially, off-site, as a result of project implementation. The City of Fresno does not identify views of these features as required to be “protected.” Based upon this, and the lack of view of the features on a majority of days in the year both on and off site, any obstruction that may occur that would be caused by the project would not cause a significant impact.

Conclusion: Impacts to scenic vistas would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.1.2 - Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view.

Implementation of the proposed project will alter the visual character of the project site from agricultural fields to an urban mixed-use development. Although this land use conversion could be perceived by some as a negative aesthetic impact in comparison with the project site’s current pastoral appearance, based upon the subjective nature of aesthetics, the City does not anticipate that the development of the proposed project with residences, commercial uses and a lake, in a master planned development, will create a visually degraded character or quality to the project site or to the properties near and around the project site. The more visually intrusive commercial uses are expected to be developed at or near the heavier travelled arterial street intersections of Shield Avenue and Grantland Avenue and Ashlan Avenue and Grantland Avenue. Additionally, all of the development will be required to comply with the substantial design review and design limitations required by the General Plan, the West Area Community Plan, and the City’s adopted design guidelines and zoning regulations identified above, which require setbacks, landscaping and designs to limit impact to neighboring properties. Finally, development of farmland is not unknown or unexpected in this area of the County, that is adjacent to the City of Fresno.

Conclusion: Development of the proposed project in compliance with the policies of the City of Fresno General Plan, the West Area Community Plan, the City Design Guidelines and zoning development standards referenced above in Section 3.1.1 (Regulatory Setting) will ensure integration of new homes and non-residential structures in an aesthetically pleasing manner within the proposed development. However, because the project would permanently alter the existing visual character of the site and area compared to existing conditions, this is considered a *significant, unavoidable and irreversible impact*.

Mitigation Measures: The project will be required to comply with the substantial design review and design limitations required by the General Plan, the West Area Community Plan, the City's adopted design guidelines and zoning regulations identified above, which require setbacks, landscaping and designs to create limited impact to neighboring properties. However, no additional mitigation measures are available that would reduce the impact to a less than significant level.

Impact #3.1.3 - Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Future development of the Westlake Development Project would introduce new light and glare sources. Lighting for streets, parking lots, walkways and buildings has the potential to create light pollution within, and in the vicinity of, the proposed project site. Light pollution is a potential impact resulting from the operation of any light source at night. Interior lighting has the potential to create a source of light spillage onto adjacent development and roadways during nighttime hours.

Light reflecting off surfaces during daylight hours also has the potential to create a source of glare within, and in the vicinity of, the proposed project site.

Conclusion: This impact is considered *potentially significant* and the following mitigation measures are required to address project impacts.

Mitigation Measure #3.1.3a: A lighting plan shall be prepared and submitted to the City of Fresno for approval in conjunction with any development applications or permit applications for development within the project site. The lighting plan shall comply with all City lighting standards and the guidelines provided by the International Dark Sky Association Model Lighting Ordinance (see http://docs.darksky.org/MLO/MLO_FINAL_June2011.pdf). Night lighting shall be limited to that necessary for security, safety, and identification. Night lighting shall also be screened from adjacent residential areas and not be directed in an upward manner or beyond the boundaries of the parcel on which the development is located. Outdoor security lighting at businesses shall be controlled by timers.

Mitigation Measure #3.1.3b: All lighting in the project area shall be shielded, directed downward and away from adjoining properties and rights-of-way. Light shields or equivalent devices shall be installed and maintained consistent with manufacturer's specifications, and shall reduce the spillage of light onto adjacent properties to less than a one-foot-candle standard as measured at the adjacent property line.

Mitigation Measure #3.1.3c: Lighting fixtures shall be designed to produce the minimum amount of light necessary for safety purposes. All parking lot pole lights and street lights shall be fully hooded and back-shielded to prevent light spillage and glare. Signs shall not be internally lighted. When externally lighted, signs shall be lighted by hidden or screened light sources.

Mitigation Measure #3.1.3d: The project design shall include the use of glare reducing materials, including non-reflective paints and building materials, to reduce the amount of glare created by the project structures.

Mitigation Measure #3.1.3e: The project site landscaping shall include vegetation designed to shield adjacent properties from project-generated light and glare.

Effectiveness of Measures: With the implementation of the above mitigation measures impacts caused by the project from light and glare would be *less than significant*.

3.2 Agricultural Resources

INTRODUCTION

This section addresses potential impacts to agricultural resources located within the proposed project site and its surrounding area. The analysis specifically focuses on the potential agricultural productivity of the soils within the site and the potential impacts that the proposed project may have on the continued use of surrounding properties for agricultural production.

Descriptions and analysis in this section are based on information provided by the California Department of Conservation Farmland Mapping and Monitoring Program and the United States Department of Agriculture. This section also relies on information from the *Model Farmland Conservation Program for Fresno County*, prepared by the American Farmland Trust for the County of Fresno Council of Governments in December 2008.

The Land Evaluation and Site Assessment model is provided in this EIR as Appendix B.

3.2.1 REGULATORY AND PHYSICAL SETTING

Regulatory

State and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

STATE

Farmland Mapping and Monitoring Program (FMMP)

In 1975, the Soil Conservation Service (since renamed Natural Resources Conservation Service [NRCS]) of the United States Department of Agriculture began farmland mapping efforts across the nation, with the goal of producing agricultural resource maps based on soil quality and land use. As part of this nationwide agricultural land use mapping effort, the NRCS developed a series of definitions known as Land Inventory Monitoring (LIM) criteria. The LIM criteria classify the land's suitability for agricultural production; suitability includes both the physical and chemical characteristics of soils and the actual land use. In the early 1980's, to continue these farmland mapping efforts in California, the Farmland Mapping and Monitoring Program (FMMP) was created within the California Department of Conservation (DOC). The FMMP carries on these mapping activities on a continuing basis and with a greater level of detail; this is accomplished by using a modified LIM criteria. These criteria utilize the NRCS and Storie Index Rating Systems, but also consider physical conditions such as a dependable water supply for agricultural production, soil temperature range, depth of the ground water table, flooding potential, rock fragment content and rooting depth. The FMMP prepares Important Farmlands maps for all counties in California, using the modified LIM criteria as well as current land use information.

The Important Farmlands maps identify seven listings: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban Land, and Other Land.

Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments may receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

Farmland Security Zone Act

A Farmland Security Zone (FSZ) contract is a contract between a private landowner and a county that enforceably restricts land to agricultural or open space uses. The minimum initial term is 20 years. Like a Williamson Act contract, FSZ contracts renew annually unless either party files a “notice of nonrenewal”. There are no lands under FSZ contract within the project vicinity.

Public Resources Code Section 21060.1

Public Resource Code Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

State Pesticide and Chemigation Laws and Regulations

Agricultural water quality issues involving pesticides are generally handled by the Regional Water Quality Control Boards (RWQCBs) in cooperation with the California Water Resources Control Board (CWRCB), the Department of Pesticide Regulation (DPR), and County Agricultural Commissioners, as directed by the Porter-Cologne Water Quality Control Act. The California Department of Health Services (CDHS) may delegate responsibility for detecting/monitoring contaminants to county health officers when there is organic chemical contamination of public water systems. The CDHS and the DPR share information on all monitoring results which are positive for pesticide residues, in order to identify the source of contamination.

Pesticide sales and use are controlled by the California Department of Pesticide Regulation and by County Agricultural Commissioners’ in each of the State’s 58 counties.

LOCAL

Fresno County Agricultural Commissioner

The Fresno County Agricultural Commissioner/Sealer, under direction of the California Department of Food and Agriculture and the California Department of Pesticide Regulation, conducts law enforcement and service functions required by state and federal laws and regulations as well as law enforcement and service functions required by measures and ordinances authorized by the Fresno County Board of Supervisors. The primary purposes of this department are to protect the agricultural industry, environment, and public health, safety and welfare.

Fresno County General Plan

The following Fresno County General Plan policies are designed to protect agricultural resources in the County:

Land Use Element

- Policy LU-A.1 The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.*
- Policy LU-A.12 In adopting land uses policies, regulations and programs, the County shall seek to protect agricultural activities from encroachment of incompatible land uses.*
- Policy LU-A.13 The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.*
- Policy LU-A.14 The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.*
- Policy LU-A.15 The County shall generally condition discretionary permits for residential development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice, which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.*

Fresno County Municipal Code

17.04.100 - Right-to-Farm Notice

If a subdivision is at any point within three hundred feet of an AE (Exclusive Agriculture), AL (Limited Agriculture), TPZ (Timberland Preserve) or RC (Resource Conservation) Zone District, the approval of the tentative and final subdivision map shall be conditional upon the recordation with the Fresno County recorder of a notice in substantially the following form:

Fresno County Right-to-Farm Notice

It is the declared policy of Fresno County to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products. Residents of property in or near agricultural districts should be prepared to accept the inconveniences and discomfort associated with normal farm activities. Consistent with this policy, California Civil Code 3482.5 (right-to-farm law) provides that an agricultural pursuit, as defined, maintained for commercial uses shall not be or become a nuisance due to a changed condition in a locality after such agricultural pursuit has been in operation for three years.

Fresno County LAFCo – Right-to-Farm Covenant

The Fresno Local Agency Formation Commission (LAFCo) is a regulatory agency with county-wide jurisdiction, established by state law to discourage urban sprawl and to encourage orderly and efficient provision of services, such as water, sewer, fire protection, etc. LAFCo operations are governed by the Cortese-Knox - Hertzberg Local Government Reorganization Act of 2000.

The Fresno County LAFCo requires that owners of land annexed to cities record “Right-to-Farm” covenants on each tract map or made a condition of each tract map to protect continued agricultural practices in the area. The covenant is required to be recorded on all land and notice of the covenant is given to future buyers of property in the development.

Fresno County Board of Supervisors Board of Supervisors Resolution 02-509

The Fresno County Board of Supervisors adopted Resolution 02-509 in 2002 in response to the Fresno Metropolitan Flood Control District’s (FMFCD) basin acquisition included in the District’s Service Plan. The County was concerned about the FMFCD’s acquiring properties for basins that are outside the City of Fresno or City of Clovis sphere of influence line. In response the County Board of Supervisors and the FMFCD Board of Directors agreed to proceed using the following guidelines that are directly related to the conversion of farmland for FMFCD’s drainage facilities:

1. Direct FMFCD Staff to see Board of Supervisors support for all future drainage areas planned outside an existing City Sphere of Influence line. This is necessary to ensure sound planning based on community interests;

2. Continue County Board of Supervisors review on a case-by-case basis of all future purchases of land for existing planned urban basin sites located outside an existing City Sphere of Influence line;
3. FMFCD Staff recognizes the importance of the County's input into land use decisions. Further, FMFCD staff recognizes the need to preserve prime farmland and to place facilities in areas that will result in the least amount of individual impact and provide the most benefit to the community. The County's input will help to ensure the Board of Directors is well informed of County concerns; and
4. FMFCD Board of Directors requested in writing the Board of Supervisors adopt the 2005 Drainage Fee Update.

Fresno Metropolitan Flood Control District Memorandum

Fresno County Board of Supervisors Resolution 02-509 identifies steps that the FMFCD must take to coordinate siting and construction of basins within the unincorporated County, which is incorporated into the FMFCD's April 2005 "Recommendations Regarding District Infrastructure Planning and Placement" memorandum.

City of Fresno General Plan

The following City of Fresno General Plan policies are designed to protect agricultural resources in, and around, the City:

Regional Cooperation Element

B-1-a. Policy: Pursue a coordinated Regional Land Use and Transportation Planning Program with the City of Clovis, Fresno and Madera Counties, and other cities which:

- *identifies areas suitable for development;*
- *directs urban development to incorporated cities;*
- *proposes programs to meet federal, state and local air quality requirements;*
- *identifies future regional facilities and services, including transportation corridors, water, and sewerage;*
- *applies public service impact fees equitably and uniformly throughout the metropolitan region;*

- *conserves agricultural land and prevents its premature conversion including requirements for an economic assessment, phasing plan, and criteria to prevent leap frog development; and*
- *opposes the creation of new rural residential lots within the identified sphere of influence of the city.*

B-1-c. Policy: Discourage the premature conversion of producing agricultural lands to urban purposes. Steps to reduce such conversion include phased growth, programmed extension of urban services, and use of Williamson Act contracts where urbanization is not anticipated within the next 10-year period.

Resource Conservation Element

G-5a. Policy Establish a cooperative research and planning program with the County of Fresno, City of Clovis, and other public agencies to conserve agricultural land resources.

G-5b. Policy Plan for the location and intensity of urban development in a manner that efficiently utilizes land area located within the planned urban boundary, including the North and Southeast Growth Areas, while promoting compatibility with agricultural uses located outside of the planned urban area.

G-5c. Policy New urban development should be compact within the constraints of service capability to conserve land resources and forestall conversion of agricultural land by preventing urban sprawl.

G-6c. Policy Where possible, major streets will be utilized as boundaries between areas designated for urban development and agriculture.

G-6d. Policy When land proposed for urban development directly abuts actively farmed land that is under an agricultural preservation contract which has not had an application for cancellation filed, nor a Notice of Non-renewal, appropriate design features need to be incorporated into the development project to buffer the agriculture/urban interface. Design features should include the following, or equivalent measures, to create an adequate buffer:

- *wider building setbacks with fencing; and*
- *designated open space (including but not limited to: densely landscaped strips, full-width multi-use trails or bikeways, on-site flood control, drainage or recharge facilities) and/or boundary streets.*

West Area Community Plan

The following West Area Community Plan policies are designed to protect agricultural resources located within the West Area Community Plan area:

W-1-c. Policy The City of Fresno shall continue to implement its Urban Growth Management (UGM) policies, which encourage orderly development and discourage premature development of land near the planned urban fringe.

W-1-e. Policy When land proposed for urban development abuts actively farmed land that is (1) in an agricultural land conservation contract (including land that is outside the city's sphere of influence boundary; and/or (2) designated in the city's General Plan for continued agricultural use, the development project shall include design features which provide an agricultural/urban buffer as follows:

- *building setbacks with fencing;*
- *designated open space (including, but not limited to, densely landscaped strips, full-width multi-use trails or bikeways, and permanent on-site flood control/drainage facilities); and*
- *boundary streets.*

W-1f. Policy The County Zoning Ordinance requirements regarding uses permitted in County AE and AL zone districts shall remain in effect upon annexation to the city. Permitted uses in these county zone districts can be continued until a subsequent subdivision, rezoning, or special permit it is approved for the agricultural property. Upon application for such a subsequent entitlement, permitted uses will be reconsidered.

City of Fresno General Plan MEIR

The Master Environmental Impact Report (MEIR) prepared for the 2025 City of Fresno General Plan adopted mitigation measures to address the significant impact the implementation of the General Plan would have on agricultural resources. Mitigation measures E-1 through E-4 included in the City of Fresno's MEIR are implemented on a City-wide basis to reduce the impacts associated with farmland conversion. The measures are described below:

E-1. The City shall continue to implement and pursue strengthening of urban growth management service delivery requirements and annexation policy agreements, including urging that the county continue to implement similar measures within the boundaries of the 2025 Fresno General Plan, to promote contiguous urban development and discourage premature conversion of agricultural land.

E-2. To minimize the inefficient conversion of agricultural land, the City shall pursue the appropriate measures to ensure that development within the planned urban boundary occurs consistent with the General Plan and that urban development occurs within the city's incorporated boundaries.

E-3. The City shall pursue appropriate measures, including recordation of right to farm covenants, to ensure that agricultural uses of land may continue within those areas of transition where planned urban areas interface with planned agricultural areas.

E-4. Development of agricultural land, or fallow land adjacent to land designated for agricultural uses, shall incorporate measures to reduce the potential for conflicts with the agricultural use. Implementation of the following measures shall be considered:

- a. Including a buffer zone of sufficient width between proposed residences and the agricultural use;
- b. Restricting the intensity of residential uses adjacent to agricultural lands;
- c. Informing residents about possible exposure to agricultural chemicals;
- d. Where feasible and permitted by law, exploring opportunities for agricultural operators to cease aerial spraying of chemicals and use of heavy equipment near proposed residences; and
- e. Recordation of right to farm covenants to ensure that agricultural uses of land can continue.

Physical Setting (Existing)

AGRICULTURAL ECONOMY

Agriculture is a major activity throughout Fresno County and the Central Valley. The City of Fresno is located in Fresno County, the State's largest agricultural county in terms of acreage and economics. The California Department of Conservation Farmland Mapping and Monitoring Program indicated that approximately 56 percent of the County's land area was in cultivated agricultural production in 2008. Fresno County has consistently maintained its position as the largest agricultural economy in the State during the past 5 years. Between 2005 and 2008, the production value of Fresno County crops increased from \$4.6 billion to \$5.6 billion. In 2009, the production value of Fresno County crops decreased from 5.6 billion to \$5.3 billion. In 2010, the production value increased to \$5.9 billion. Table 3.2-1 summarizes agricultural production in the County between 2005 and 2010 (the most recent years available). Table 3.2-2 summarizes the top 10 agricultural commodities produced in Fresno County by dollar value in 2010. As shown in the table, grapes are the number one commodity in Fresno County with a production value of \$820 million.

**Table 3.2-1
Fresno County Agricultural Economy**

Year	\$ Value (Billions)	Rank in State
2010	5.9	*
2009	5.3	1
2008	5.6	1
2007	5.3	1
2006	4.8	1
2005	4.6	1

* Data unavailable

Source: United States Department of Agriculture, 2004-2009

**Table 3.2-2
Fresno County Agricultural Commodity Summary (2010)**

Rank	Commodity	\$ Value (Millions)
1	Grapes	820
2	Almonds	619
3	Tomato	583
4	Poultry	486
5	Milk	393
6	Cattle and Calves	291
7	Garlic	264
8	Pistachio	222
9	Oranges	207
10	Cotton	150
Top Ten Total		4,038

Source: Fresno County Agricultural Commissioner, 2011

IMPORTANT FARMLANDS

Fresno County produces many different crops and is considered one of the most diverse and productive farming areas in the world. Four major classifications of farmland adopted by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) are located within the County. These classifications, as defined below, outline the fertility of soils.

“Prime Farmland” is land, which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture

supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods.

“Farmland of Statewide Importance” is land other than Prime Farmland, which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

“Unique Farmland” is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, that has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

“Farmland of Local Importance” is either currently producing crops, has the capability of production, or is used for the production of confined livestock. Farmland of Local Importance is land other than Prime Farmland, Farmland of Statewide Importance or Unique Farmland. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

The State of California also prepares Important Farmland maps for agricultural counties and monitors permanent farmland conversion. The California Department of Conservation, Division of Land Resource Protection’s Farmland Mapping and Monitoring Program (FMMP) employs the above described NRCS classifications with the addition of three other categories, as follows:

“Grazing Land” is defined in Government Code §65570(b)(3) as: "...land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock." The minimum mapping unit for Grazing Land is 40 acres. Grazing Land does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, and heavily brushed, timbered, excessively steep or rocky lands which restrict the access and movement of livestock.

“Urban and Built-Up Land” is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as a part of Urban and Built-up Land if they are a part of the surrounding urban areas.

“Other Land” is all other land that does not meet the criteria of any other category.

Table 3.2.-3 provides a summary amount and type of total acreage in Fresno County between 2000 and 2010 (the most recent years available), using the classifications of agricultural land

provided by the California Department of Conservation FMMP, as set forth on the County’s Important Farmland Map (2010). As shown in the table below, this acreage has remained relatively constant between 2000 and 2010, having changed only less than three percent in total acreage.

**Table 3.2-3
Fresno County Important Farmland Summary**

Classification	Acres					
	2000	2002	2004	2006	2008	2010
Prime Farmland	734,052	731,936	722,584	713,085	693,173	685,411
Farmland of Statewide Importance	491,569	490,266	483,786	478,732	439,020	415,689
Unique Farmland	104,223	102,232	100,316	98,091	94,177	92,649
Farmland of Local Importance	70,691	74,357	84,857	95,547	149,906	176,524
Important Farmland Total	1,400,535	1,398,791	1,391,543	1,385,455	1,376,276	1,370,273
Total County Area	2,441,615	2,441,616	2,441,620	2,441,620	2,437,418	2,437,418

Notes:

Difference in County area acreage figure attributable to changes in GIS mapping technology.

Source: California Department of Conservation, 2004–2008 and 2008-2010.

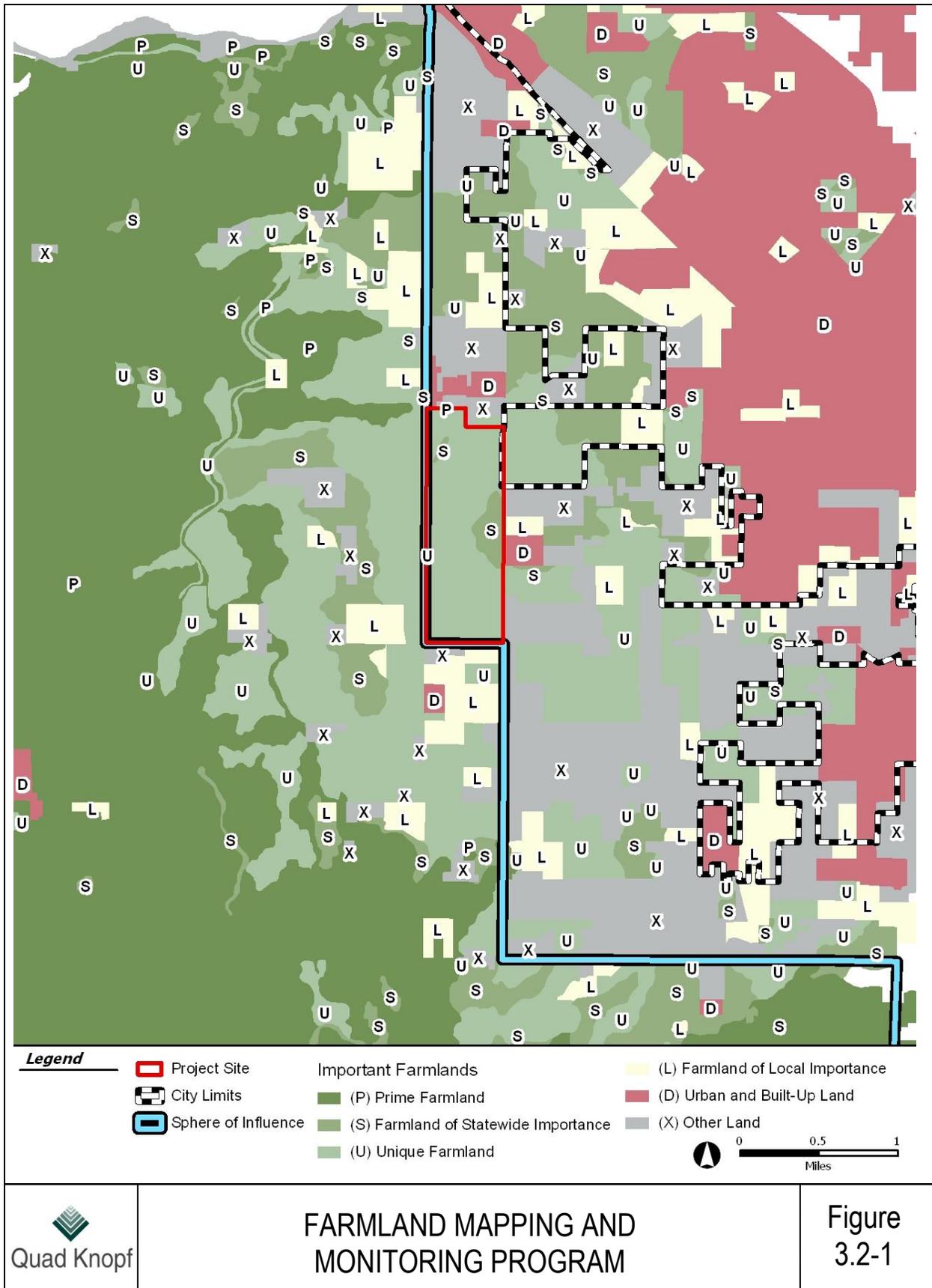
Project Site

LAND CLASSIFICATION

According to the FMMP, Farmland of Statewide Importance and Unique Farmland occupy the proposed project site (see Figure 3.2-1).

SOIL SUITABILITY

The Land Capability Classification System is used by the USDA, NRCS to determine a soil’s agricultural productivity. The Land Capability Classification indicates the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops and the way they respond to management. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). The “prime” soil classification indicates the absence of soil limitations, which if present, would require the application of management techniques (e.g., drainage, leeching, special fertilizing practices) to enhance production. Specific subclasses are also utilized to further characterize soils. A general description of soil classifications, as defined by NRCS, is provided in Table 3.2-4.



**Table 3.2-4
Land Capability Classification**

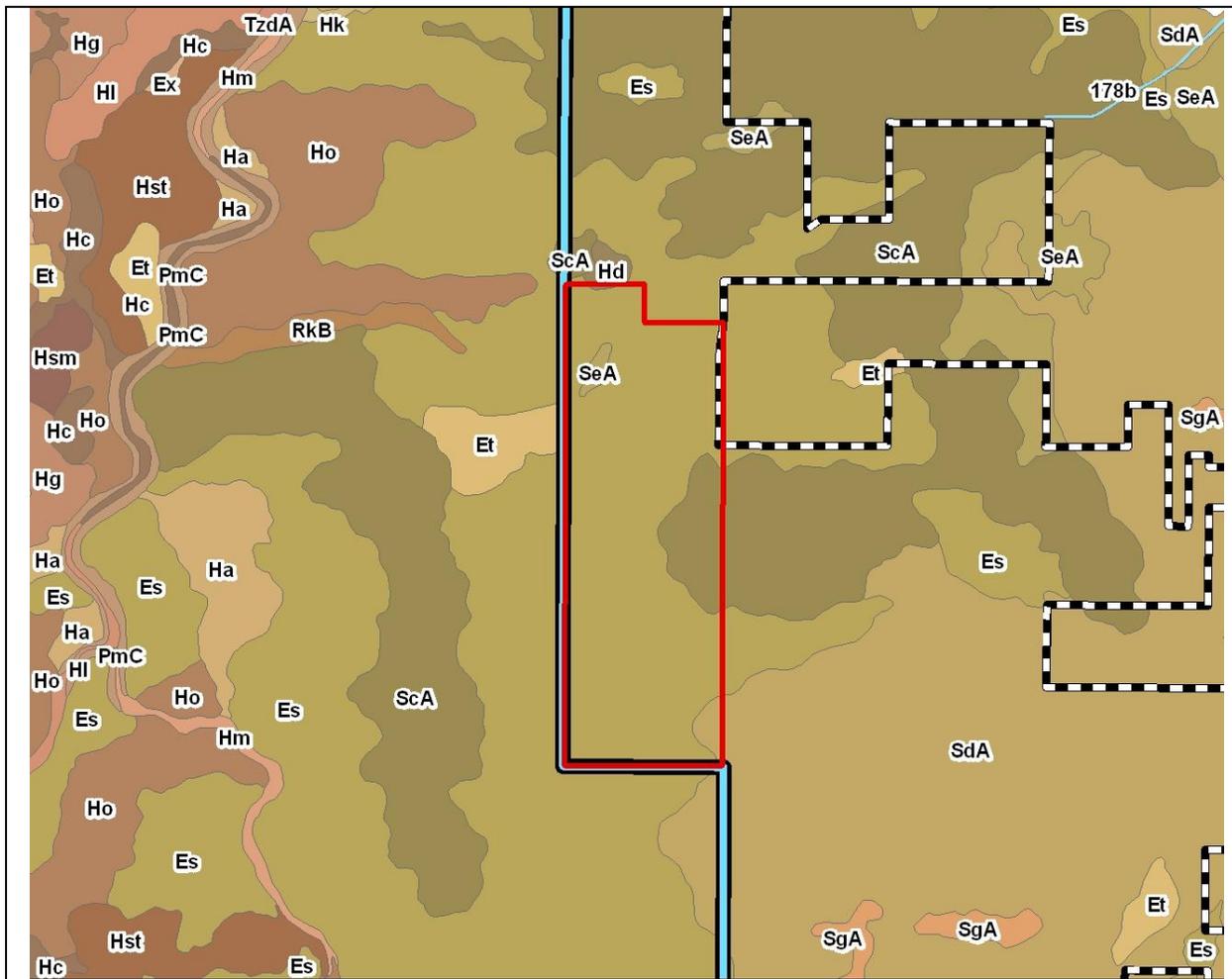
Soil Classification	Description
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove soils that limit their use largely to pastures or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply, or to aesthetic purposes.

Source: USDA, Natural Resources Conservation Service, 2011

Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, IIe. The letter e shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

As shown in Figure 3.2-2 the project site contains mostly Exeter sandy loam (Es) (87 percent) with minor amounts of San Joaquin sandy loam (ScA) (9 percent), San Joaquin sandy loam shallow (SdA) (2 percent), San Joaquin loam (SeA) (1 percent), and Hanford sandy loam (Hd) and Exeter sandy loam shallow (Et) (1 percent combined). The Fresno County General Plan Background Report characterizes the soils in the project vicinity as excessively drained to moderately well drained soils of young alluvial fans.

Exeter sandy loam, San Joaquin sandy loam, and San Joaquin loam are Class IIIs soil (irrigated) and Class IVs (non-irrigated). Exeter sandy loam shallow is a Class IIs soil (irrigated) and Class 4s (non-irrigated). Hanford sandy loam is a Class 2e (irrigated) and Class 4e (non-irrigated)



Legend

- Project Site
- City Limits
- Sphere of Influence

Soils

- EXETER LOAM (Ex)
- EXETER SANDY LOAM (Es)
- EXETER SANDY LOAM, SHALLOW (Et)
- HANFORD COARSE SANDY LOAM (Ha)
- HANFORD FINE SANDY LOAM (Hm)
- HANFORD FINE SANDY LOAM, SILTY SUBSTRATUM (Ho)
- HANFORD GRAVELLY SANDY LOAM (Hl)
- HANFORD SANDY LOAM (Hc)
- HANFORD SANDY LOAM, BENCHES (Hd)
- HANFORD SANDY LOAM, HARD SUBSTRATUM (Hk)
- HANFORD SANDY LOAM, SILTY SUBSTRATUM (Hg)
- HESPERIA FINE SANDY LOAM MODERATELY DEEP (Hst)
- HESPERIA SANDY LOAM, MODERATELY DEEP (Hsm)
- POLLASKY SANDY LOAM, 9 TO 15 % SLOPES (PmC)
- ROCKLIN SANDY LOAM, 3 TO 9 % SLOPES (RkB)
- SAN JOAQUIN LOAM, 0 TO 3 % SLOPES (SeA)
- SAN JOAQUIN LOAM, SHALLOW, 0 TO 3 % SLOPES (SgA)
- SAN JOAQUIN SANDY LOAM, 0 TO 3 % SLOPES (ScA)
- SAN JOAQUIN SANDY LOAM, SHALLOW, 0 TO 3 % SLOPES (SdA)
- TUJUNGA COBBLY LOAMY SAND, 0 TO 3 % SLOPES (TzdA)
- WATER (178b)



SOILS MAP

Figure 3.2-2

STORIE INDEX

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity). A score ranging from 0 to 100 percent is determined for each factor, and the scores are then multiplied together to derive an index rating. Storie Index ratings have been combined into six grade classes as follows: Grade 1 (excellent), 100 to 80; Grade 2 (good), 79 to 60; Grade 3 (fair), 59 to 40; Grade 4 (poor), 30 to 20; Grade 5 (very poor), 19 to 10, and Grade 6 (nonagricultural), less than 10.

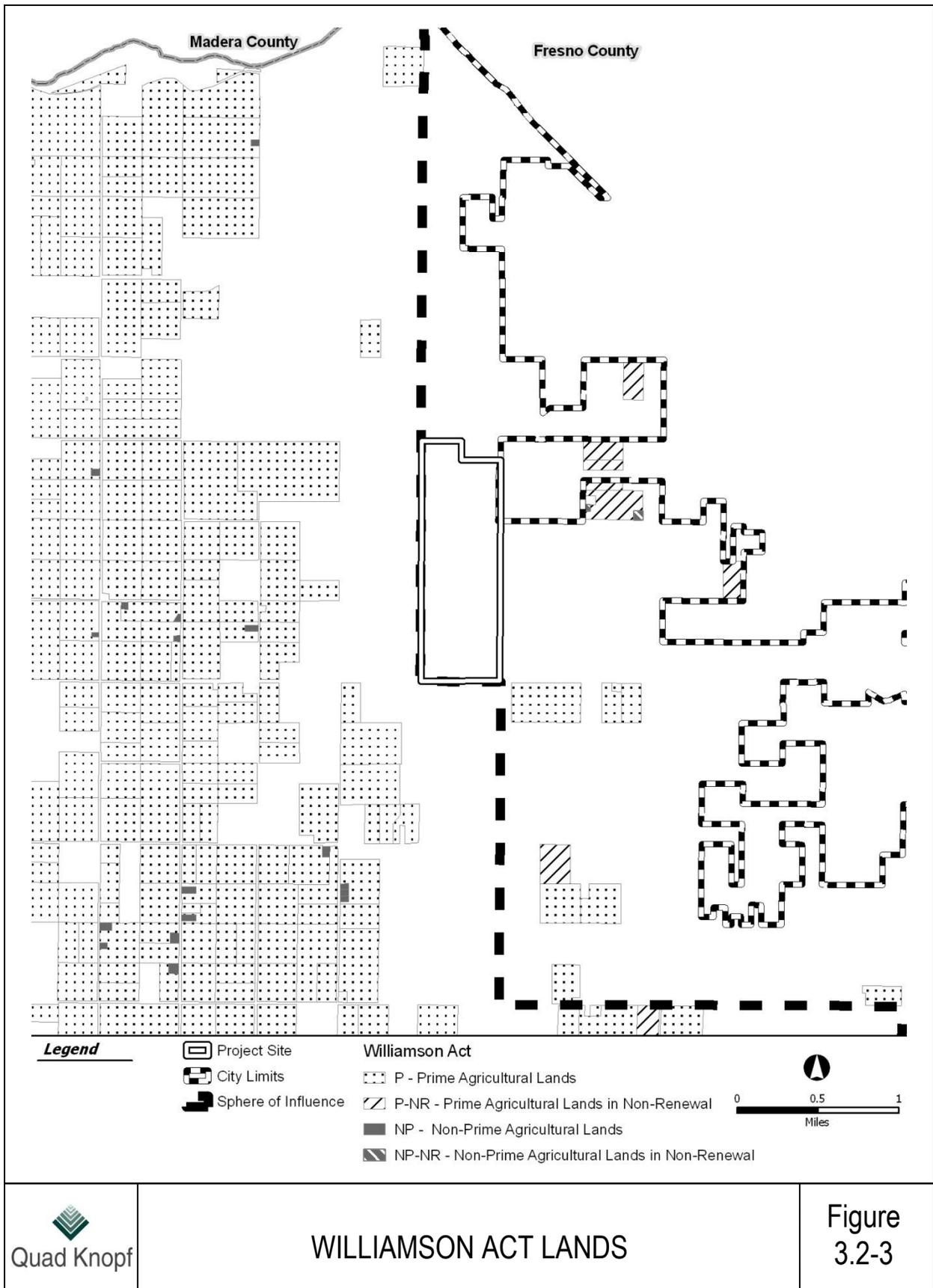
With the exception of Hanford sandy loam, all of the soils on the project site have a poor Storie Index rating of 4 because the soils are not of a high agricultural value. Hanford sandy loam had a Storie Index rating of 1.

WILLIAMSON ACT CONTRACTS

Figure 3.2-3 shows parcels under Williamson Act contract in the project vicinity. As Figure 3.2-3 shows, there are no parcels within the project site that are under Williamson Act contract. Approximately 40 acres of the project site were subject to Williamson Act Contracts AP-5269 and AP-5270. Notices of Non Renewal were filed in 1995 and these contracts expired in 2005. Referencing Figure 3.2-2, there are few parcels under Williamson Act contract within one mile of the project site, however; within two miles of the project site there are many parcels under Williamson Act contract. The majority of these properties are to the west of the project site.

CONSERVATION PLANNING FOR FARMLAND

Although the FMMP classifies the site as Farmland of Statewide Importance and Unique Farmland, the Model Farmland Conservation Program (MFCP) classifies the project site as "medium" under its strategic farmland classification. "Medium" classifications (35-49 points on a grading scale) are not part of the defined strategic Agricultural Reserve. Properties located within the city's sphere of influences (SOIs) were not included in the agricultural reserve. The MFCP recommends that nonagricultural development be concentrated in existing urban areas, and directed away from High-Quality and Very-High-Quality Farmland, as defined in the MFCP. The proposed Agricultural Reserve for the county would span 559,000 acres and would exclude land within cities and cities' (SOIs). Implementation of the MFCP would be based on the following basic components: 1) designation of the strategic Agricultural Reserve, 2) definition of objective criteria for future SOI expansion into the reserve, and 3) a non-regulatory, public-private stewardship council to oversee the program.



WILLIAMSON ACT LANDS

Figure 3.2-3

METHODOLOGY

Quad Knopf, Inc. evaluated the proposed project's potential environmental impacts on agricultural resources through the use of the Land Evaluation and Site Assessment (LESA) model issued by the California Department of Conservation. The CEQA Guidelines identify the LESA model as an appropriate instrument to assess the significance of farmland conversion impacts. Information on the LESA model is provided below. The LESA model worksheets are provided in Appendix B.

Land Evaluation and Site Assessment Model (LESA)

The Land Evaluation and Site Assessment (LESA) model was released by the Natural Resources Conservation Service (NRCS) in 1981. It is designed to provide objective ratings of the agricultural suitability of land compared to demands for nonagricultural uses of land. The model is composed of two sets of factors. The first set, Land Evaluation (LE), includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment (SA), includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. The final LESA score is based on a scale of 0 to 100 with each set of factors contributing up to 50 points. Table 3.2-5 below shows the thresholds of significance established by the NRCS.

**Table 3.2-5
California LESA Model Scoring Thresholds**

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points.
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points.
80 to 100 Points	Considered Significant

Source: California Department of Conservation Office of Land Conservation, 1997

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation Factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. According to the LESA Model the land for the project site has a rating of 52.5 when land capability classification, Storie Index, project size, water resource availability, and surrounding agricultural lands factors are taken into account. The LESA worksheets and scoring manual are located in Appendix B.

IMPACT EVALUATION CRITERIA

According to the *CEQA Guidelines*, a project will normally have significant adverse impacts associated with agricultural resources if the project:

- a) *Converts 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 uses.*
- 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 § 12220(q), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 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.*

3.2.2 IMPACT ANALYSIS

Impact #3.2.1 – Conversion of 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 uses.

The proposed project will result in the loss of 460 acres of agricultural land designated Farmland of Statewide Importance and Unique Farmland. The project site is partially adjacent to the current City limits, is within the City of Fresno Sphere of Influence (SOI) and is intermittently used for agricultural production. The project site sits on 460 acres of unimproved land. The site is currently (January, 2013) fallow farmland. Previously, this land had been in agricultural production for decades with a mixture of orchard and row crops.

In order to determine the relative significance of this conversion, an agricultural conversion study was done using California Department of Conservation's LESA Model and the results are summarized in Table 3.2-6. According to the LESA Model the land for the project has a rating of 52.5 when land capability classification, Storie Index, project size, water resource availability, and surrounding agricultural lands factors are taken into account. A score from 40 to 59 points is considered significant only if the Land Evaluation (LE) and the Site Assessment (SA) subscores are each greater than or equal to 20 points. The LE subscore was 22.5 and the SA subscore was 32.0. Therefore, the LESA Model concludes that conversion of the project site to a non-agricultural use is considered significant.

**Table 3.2-6
Land Evaluation and Site Assessment Model Scoring Summary**

Category	Factor	Points	Factor Weigh	Weighted Points	Remarks
Land Evaluation	Land Capability Class	59.6	0.25	14.9	The project site contains a majority of Class III soils, which have agricultural limitations.
	Storie Index	30.2	0.25	7.5	The project site has a low Storie Index because of the low agricultural value of the soils and limitations.
	Subtotal		0.50	22.5	—
Site Assessment	Project Size	100	0.15	15	The project site size rating is 100. The soils are not high quality, however the project is of sufficient size to warrant a high point value.
	Water Resources Availability	95	0.15	12	The project site is assumed to have access to well water, although economic restrictions may limit water availability during drought years.
	Surrounding Agricultural Lands	20	0.15	3.0	Farmland accounts for 48 percent of the surrounding land uses, which translates to 50 points.
	Surrounding Protected Resource Lands	0	0.05	0.0	Protected resource lands account for 33 percent of surrounding acreage, which translates to zero points.
	Subtotal		0.50	30.0	—
Total				52.5	—

Notes:

LESA scoring sheet provided in Appendix B.

Source: Quad Knopf, Inc, 2011.

The 2025 City of Fresno General Plan designates the project site for urban uses. Current land use designation on the project site include Medium Low, Medium and Medium High Density Residential, Neighborhood Commercial, Commercial Office, Public Facility (elementary school), Open Space, and Neighborhood Park (see Figure 2-3). The project site has approved pre-zoning for approximately 330 of the 460 acres (Rezone No. R-04-81 was approved by the Fresno City Council on July 26th, 2005; see Figure 2-4). This zoning would become effective upon annexation of the site to the City of Fresno; currently, the land is still AE-20 (Exclusive Agricultural District, 20-acre minimum lot size, Fresno County Zone District). These land use designations indicate that the City has contemplated the conversion of this agricultural land to

urban uses over the planning horizon of the General Plan and, therefore, does not view the project area as a preferred location for permanent agricultural uses.

The EIR for the City of Fresno General Plan found the conversion of prime agricultural land, including the project site, to urban uses to be a significant and unavoidable impact. As part of adopting the City General Plan, the Fresno City Council adopted findings of fact and a statement of overriding considerations that indicated urban development was of greater benefit to the community than preserving agricultural land within city limits. Although conversion of the project area to urban uses would reflect the land use assumptions contained in the City of Fresno General Plan, farmland is an important resource to the region, and direct conversion of Important Farmland and Unique Farmland to urban land uses would be considered a significant impact under LESA methodology.

The project is consistent with MFCP policies promoting the concentration of development within existing urban boundaries in order to preserve farmland for agricultural use. As the project site is within the Sphere of Influence for the City of Fresno, and was classified as “medium” farmland in the MFCP, conversion of the Farmland of Statewide Importance and Unique Farmland on the site to urban uses would be consistent with recommendations in the MFCP, and with existing policies of the City of Fresno.

However, while the City contemplated urban development on the project site it did not contemplate the relocation of Ponding Basin CD on agricultural land outside the City’s Sphere of Influence. As such the impacts as a result of project implementation would be greater than previously disclosed in the Master Environmental Impact Report (MEIR) for the General Plan. However, the FMFCD is the responsible agency for construction of ponding basins. According to the Master EIR for the 2004 District Services Plan, implementation of the Services Plan was found to potentially convert Prime Farmland, Farmland of Statewide Importance, and/or Unique Farmland. As part of adopting the District Services Plan, the FMFCD Board of Directors adopted findings of fact and a statement of overriding consideration that indicated the development of flood control infrastructure was of greater benefit to the community than preserving agricultural land within the FMFCD’s service area. Development of a relocated Ponding Basin CD would follow the guidelines included in the Fresno County Board of Supervisors Resolution 02-509 as described in the 2005 FMFCD memorandum “Recommendations Regarding District Infrastructure Planning and Placement”. Nonetheless, as identified in the FMFCD MEIR for their Service Plan, the conversion of agricultural land would result in the permanent loss of farmland, which is considered a significant impact. Additionally, regardless of any findings made in the City’s MEIR and FMFCD’s MEIR, both agencies will need to make new findings about the significant impacts from this project, including a Statement of Overriding Considerations to approve this project, even if some of the impacts were already addressed in prior EIRs, as this is EIR is not tiering off of those EIRs.

Conclusion: Because prime agricultural land is a non-renewable environmental resource, this impact is *significant, unavoidable, and irreversible*.

Mitigation Measures: Because continued agricultural use in the area is not feasible in the long-term (urban development on the project site and in the project area is planned and contemplated

by the City's General Plan – see discussion above) and because mitigation methods such as on-site preservation would reduce development and therefore not fully meet the objectives of the project, there is no on-site mitigation required or available. The project is compatible with the City's planning documents regarding conversion of agricultural lands. The County and City of Fresno do not have an established farmland protection program or uniform agricultural conservation banking program to which the applicant could contribute. There are, based on the following, no project-specific feasible mitigation measures available to reduce this impact to a less than significant level:

- Agricultural mitigation fees or similar methods are infeasible unless implemented on a region-wide basis. Unless these programs are coordinated on at least the County level, different agencies may confound the development plans of other communities, preserve the wrong properties, or result in no actual mitigation if not implemented correctly. Further, there is no established mechanism for the acquisition and maintenance of agricultural easements in the County and their successful implementation would be speculative.
- Under the State Mitigation Fee Act, an agency imposing a fee must: (1) identify the purpose of the fee; (2) identify the use to which the fee is to be put; (3) determine that there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed; (4) determine that there is a reasonable relationship between the need for the public facility and type of development project on which the fee is imposed; and (5) determine that there is a reasonable relationship between the amount of the fee and the cost of the public facility attributable to development.
- Neither the City nor County has conducted a nexus study to analyze and demonstrate an adequate nexus between agricultural mitigation fees and project impacts. Nor has a study been conducted to substantiate a selected mitigation ratio.
- Courts have opined that conservation easements or agricultural impact fees do not completely mitigate agricultural impacts because they do not create additional, offsetting agricultural lands. They simply ensure the longer-term operation of existing agricultural operations and the loss of agricultural lands is not reduced.

Impact #3.2.2 - Conflict with existing zoning for agricultural use, or a Williamson Act contract.

Agricultural Zoning

The Fresno County Zoning Ordinance currently designates the project site as AE-20 (Exclusive Agricultural District, 20-acre minimum lot size). The existing County agricultural zoning would be replaced with City urban zoning upon annexation. The City of Fresno has pre-zoned approximately 330 of the 460 acres consistent with the land use designations of the 2025 Fresno General Plan (Rezone No. R-04-81 was approved by the Fresno City Council on July 26th, 2005; see Figure 2-4). The remaining 90 acres of the property would be assigned City zoning consistent with the General Plan following annexation. The project includes annexation to the City of Fresno. A General Plan Amendment and a pre-zone application are proposed that will

zone the property consistent with the proposed land uses. Therefore, after annexation, the project would not conflict with an existing agricultural zone.

Williamson Act Contract

There are no active Williamson Act contracts encumbering the parcels comprising the project site. Therefore, no conflicts with a Williamson Act contract would occur.

Conclusion: Impacts would be *less than significant* with respect to potential conflicts with zoning and there is *no impact* with respect to Williamson Act contract conflicts.

Mitigation Measures: No mitigation measures are necessary.

Impact #3.2.3 - Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

The project site is surrounded by agricultural land to the west, agricultural land to the south, residential, light industrial and agricultural land uses to the east, and residential uses to the north. The City of Fresno General Plan contemplates urban development on the undeveloped land east and north of the project site. The land south and west of the project site is outside the City of Fresno's planning boundaries and is expected to remain under the authority of Fresno County. The designation of urban land uses for areas including the project site indicates the City has planned for the conversion of agricultural land within the City's planning boundary. General Plan Land Use Policy G-6-C identifies the use of buffers at the interface of urban development and farmland, such as roadways, to minimize conflict between urban and agricultural uses; this is consistent with the City of Fresno General Plan MEIR Mitigation Measure E-4. In this case, Garfield Avenue, Shields Avenue, and Grantland Avenue serve as buffers between the project site and these agricultural uses. Although the General Plan contemplates the long-term conversion of the lands to the east of the project site to non-agricultural uses, the use of a buffer is a widely recognized planning technique intended to prevent the premature conversion of agricultural land to non-agricultural use. The lands to the south and west of the project site would remain under the authority of Fresno County. Garfield Avenue and Shields Avenue would both serve as a buffer between the project site and the unincorporated lands south and west of the project site. Additionally, these lands are outside the City's Sphere of Influence and therefore, are not contemplated for development by the City. Should an applicant seek to develop one or more of these properties, it would require an adjustment of the Sphere of Influence – a significant discretionary approval that is not assured. At the time of the Draft EIR release, there were no applications pending before the City of Fresno that contemplate converting any of these properties to non-agricultural use.

In summary, the proposed project would be consistent with the General Plan's policies to avoid premature conversions of farmlands through the incorporation of buffers. However, there is the potential for urban and agricultural interface conflicts, which may create additional pressures to convert land to non-agricultural use.

Conclusion: The proposed project may create new development pressures or result in changes to the environment that would result in the conversion of farmland to non-agricultural use. Impacts would be *potentially significant*.

Mitigation Measure #3.2.3: In order to reduce potential conflicts between urban and agricultural uses, the following measures shall be implemented:

- Potential residents and business owners shall be notified about possible exposure to agricultural chemicals at the time of purchase/lease of property within the Westlake development.
- A Right-to-Farm Covenant shall be recorded on each tract map or be made a condition of each tract map to protect continued agricultural practices in the area.
- Potential residents and business owners shall be informed of the Right-to-Farm Covenant at the time of purchase/lease of property within the Westlake development.

Effectiveness of Measure: Because the project would be consistent with the General Plan's policies to avoid premature conversions of farmlands through the incorporation of buffers and because implementation of Mitigation Measure #3.2.3 would provide remedies to address the urban and agricultural interface conflicts, the mitigation measure would lessen the impacts to a *less than significant* level.

3.3 Air Quality

INTRODUCTION

This section describes the impacts of the proposed project on local and regional air quality, based on the assessment guidelines of the San Joaquin Valley Air Pollution Control District (SJVAPCD). More specifically, the section describes existing air quality, construction-related impacts, direct and indirect emissions associated with the proposed project, the local and regional impacts of those emissions, and mitigation measures warranted to reduce or eliminate any identified significant impacts. Quad Knopf performed air quality analysis in compliance with the adopted SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (2002) for the proposed project. It included construction and operational air quality modeling. The modeling output is provided in Appendix C.

3.3.1 REGULATORY AND PHYSICAL SETTING

Regulatory

Air pollutants are regulated at the national, state, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (EPA) regulates at the federal level. The California Air Resources Board (ARB) regulates at the state level and SJVAPCD regulates at the air basin level.

FEDERAL

U.S. Environmental Protection Agency

The EPA handles global, international, national, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance in air pollution programs, and sets National Ambient Air Quality Standards, also known as federal standards. There are federal standards for six common air pollutants, called criteria air pollutants, which were identified resulting from provisions of the Clean Air Act of 1970. The six criteria pollutants are:

- Ozone;
- Particulate matter (PM10 and PM2.5);
- Nitrogen dioxide;
- Carbon monoxide (CO);
- Lead; and
- Sulfur dioxide.

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants.

STATE

California Air Resources Board

The State Implementation Plan for the State of California is administered by the California Air Resources Board (ARB), which has overall responsibility for statewide air quality maintenance and air pollution prevention. A State Implementation Plan is prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain National Ambient Air Quality Standards. The State Implementation Plan incorporates individual federal attainment plans for regional air districts. Federal attainment plans prepared by each air district are sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring) control measures and strategies and enforcement mechanisms.

ARB also administers California Ambient Air Quality Standards for the 10 air pollutants designated in the California Clean Air Act. The 10 state air pollutants are the six criteria pollutants listed above as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. Visibility-reducing particles are suspended particulate matter. Visibility is the distance through the air that an object can be seen without the use of instrumental assistance. Vinyl chloride is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. Visibility-reducing particles and vinyl chloride are not assessed in this analysis because the project would not be exposed to or generate those pollutants.

Federal and state ambient air quality standards are summarized in Table 3.3-1.

Toxic Air Contaminant Regulation

ARB's toxic air contaminant program traces its beginning to the criteria pollutant program in the 1960s. For many years, the criteria pollutant control program has been effective at reducing toxic air contaminants, since many volatile organic compounds and PM constituents are also toxic air contaminants. During the 1980s, the public's concern over toxic chemicals heightened. As a result, citizens demanded protection and control over the release of toxic chemicals into the air. In response to public concerns, the California legislature enacted the Toxic Air Contaminant Identification and Control Act governing the release of toxic air contaminants into the air. This law charges ARB with the responsibility for identifying substances as toxic air contaminants, setting priorities for control, adopting control strategies, and promoting alternative processes. ARB has designated almost 200 compounds as toxic air contaminants. Additionally, ARB has implemented control strategies for a number of compounds that pose high health risk and show potential for effective control.

In 2005, ARB approved an Air Toxics Control Measure (ATCM) to limit diesel-fueled commercial motor vehicle idling to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section (1) shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location and (2) shall not idle a diesel-fueled auxiliary power system for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

**Table 3.3-1
Federal and State Ambient Air Quality Standards**

Pollutant	Average Time	California Standards¹ Concentration³	Federal Standards² Primary^{3,4}
Ozone (O ₃)	1 hour	0.09 ppm (180 µg/m ³)	-
	8 hour	0.07 ppm (137 mg/m ³)	0.075 ppm (147 µg/m ³)
Respirable Particulate Matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³
	Annual arithmetic mean	20 µg/m ³	-
Fine Particulate Matter (PM _{2.5})	24 hour	-	35 µg/m ³
	Annual arithmetic mean	12 µg/m ³	15 µg/m ³
Carbon Monoxide (CO)	8 hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)
	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)
Nitrogen Dioxide (NO ₂) ⁵	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)
	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)
Sulfur Dioxide (SO ₂) ⁶	24 hour	0.04 ppm (105 µg/m ³)	0.14 ppm
	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)
Lead (Pb) ^{7, 8}	30-day average	1.5 µg/m ³	—
	Calendar quarter	—	1.5 µg/m ³
	Rolling 3-month average ^h	—	0.15 µg/m ³
Visibility Reducing Particles ⁹	8 hour	see footnote 9	
Sulfates	24 hour	25 µg/m ³	No Federal Standards
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m ³)	
Vinyl Chloride ^g	24 hour	0.010 ppm (26 µg/m ³)	

Notes:

ppm = Parts Per Million

µg/m³ = micrograms per cubic meter

mg/m³ = milligrams per cubic meter

4

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM₁₀, PM_{2.5}, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration of 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact US EPA for further clarification and current federal policies.

3. Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are

to be corrected to a reference temperature of 25°C and a reference of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

5. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively

6. On June 2, 2010, the US EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO₂ standard of 0.14 ppm and the annual primary standard of 0.030 ppm, effective August 23, 2010. The secondary SO₂ standard was not revised at that time; however, the secondary standard is undergoing separate review by EPA. Note that the new standard is in units of ppb California standards are in units of ppm. To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

7. The ARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

8. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

9. Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.

Source: California Air Resources Board, June 7, 2012

Naturally Occurring Asbestos Regulation

The ARB has an ATCM for construction, grading, quarrying, and surface mining operations requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. This ATCM applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas, such as the project site, are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The ATCM also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity.

ARB’s Land Use Handbook

ARB adopted the Air Quality and Land Use Handbook: A Community Health Perspective (Land Use Handbook) in 2005. The Land Use Handbook provides information and guidance on siting sensitive receptors in relation to sources of toxic air contaminants. The sources of toxic air

contaminants identified in the Land Use Handbook are high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities. The proposed project does not fall within the sources identified in the Handbook. If the project involves siting a sensitive receptor or source of toxic air contaminant discussed in the Land Use Handbook, siting mitigation may be added to avoid potential land use conflicts, thereby reducing the potential for health impacts to the sensitive receptors.

REGIONAL

San Joaquin Valley Air Pollution Control District

The air pollution control agency for the Air Basin is the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is responsible for regulating emissions primarily from stationary sources, certain area-wide sources, and indirect sources. The SJVAPCD maintains air quality monitoring stations throughout the Air Basin. The SJVAPCD, in coordination with eight countywide transportation agencies, is also responsible for developing, updating, and implementing the Air Quality Plans (AQPs) for the Air Basin. In addition, the SJVAPCD has prepared the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (2002), which sets forth recommended thresholds of significance, analysis methodologies, and provides guidance on mitigating significant impacts.

Attainment Status

There are three terms used to describe if an air basin is exceeding or meeting federal and state standards: attainment, nonattainment, and unclassified. Air basins are assessed for each applicable pollutant and receive a designation for each standard based on that assessment. Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM_{2.5} standard is met if the 3-year average of the annual average PM_{2.5} concentration is less than or equal to the standard.

Areas are designated attainment or nonattainment on a per-pollutant basis. If an air basin exceeds the “form” of a federal or state standard, the air basin is designated as “nonattainment” for that air pollutant. An air basin is designated as “attainment” if all the standards for an air pollutant are met. If there is inadequate or inconclusive data to make a definitive attainment designation for a pollutant, the air basin is considered “unclassified.” The current attainment designations for the project area are shown in Table 3.3-2.

**Table 3.3-2
Current Attainment Designations**

Pollutant	Designation Status	
	Federal¹	State²
Ozone – 1 Hour	No Federal Standard ³	Nonattainment/Severe
Ozone – 8 Hour	Nonattainment/Extreme ⁴	Nonattainment
PM10	Attainment ⁵	Nonattainment
PM2.5	Nonattainment ⁶	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Unclassified/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Visibility-reducing particles	No Federal Standard	Unclassified

Notes:

1. See 40 CFR Part 81
2. See CCR Title 17 Sections 60200-60210
3. Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
4. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
5. On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
6. The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Source: SJVAPCD, Draft Guidance for Assessing and Mitigating Air Quality Impacts – 2012, May 2012

Federal nonattainment areas are further divided into classifications—severe, serious, or moderate—as a function of deviation from standards. As of June 15, 2005, the EPA revoked the 1-hour ozone standard in all areas except the 8-hour ozone nonattainment Early Action Compact Areas. Therefore, the federal 1-hour ozone standard is only applicable to certain areas. The SJVAPCD is not listed as an Early Action Compact area; therefore, the federal 1-hour ozone standard does not apply to the project area. However, the SJVAPCD is still subject to anti-backsliding requirements such as continuation of 1-hour ozone control strategies.

As described above under Federal and State Regulatory Agencies, a State Implementation Plan is a federal requirement; each state prepares a plan to describe existing air quality conditions and measures that will be followed to attain and maintain the National Ambient Air Quality

Standards. In addition, state ozone standards have planning requirements. However, state PM10 standards have no attainment planning requirements, but air districts must demonstrate that all measures feasible for the area have been adopted.

Current Air Quality Plans

Ozone Plans

The Air Basin is designated nonattainment of state and federal health-based air quality standards for ozone. To meet CAA requirements for the one-hour ozone standard, the SJVAPCD adopted an Extreme Ozone Attainment Demonstration Plan in 2004, with an attainment date of 2010. EPA revoked the federal 1-hour ozone standard and replaced it with an 8-hour standard. Although EPA revoked the 1-hour ozone standard effective June 15, 2005, the requirement to submit a plan for that standard remained in effect for the San Joaquin Valley. On June 30, 2009, EPA proposed approval and partial disapproval of San Joaquin Valley's 2004 Extreme Ozone Attainment Plan for 1-hour ozone. EPA proposed to approve the plan revisions for the San Joaquin Valley as meeting applicable Clean Air Act requirements except for the provision addressing the reasonably available control technology requirements that the State withdrew. On December 11, 2009, the final approval of the San Joaquin Valley's 2004 Extreme Ozone Attainment Demonstration Plan was signed by EPA. The plan, prepared by the San Joaquin Valley Air Pollution Control District, showed that the area would have in place the controls necessary to meet the 1-hour ozone standard by the area's Clean Air Act deadline of 2010; however, the District was unable to show attainment by the 2010 deadline. As a result, pursuant to Section 185 of the Clean Air Act, the SJVAPCD Governing Board approved amendments to Rule 3170 to provide for a \$12 per vehicle fee to all motor vehicles registered in the Air Basin to achieve surplus emissions reductions to remediate air pollution problems caused by motor vehicles. The vehicle fee will sunset upon attainment of the one-hour ozone standard. An anticipated attainment date has not been provided by the SJVAPCD.

The Air Basin is classified as serious nonattainment for the federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the SJVAPCD's Governing Board adopted the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be unfeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2026. At its adoption of the 2007 Ozone Plan, the SJVAPCD also requested a reclassification to extreme nonattainment. CARB approved the plan in June 2007.

In December 2008, the SJVAPCD adopted the "Amendment to the 2007 Ozone Plan to Extend the Rule Adoption Schedule for Organic Waste Operations." This amendment revised a table of the 2007 plan to extend the completion date for the Composting Green Waste control measure to the fourth quarter of 2010. This extension allows time for further study before rule adoption, and this rule extension does not impact reasonable further progress or the attainment demonstration. EPA proposed approval of the 2007 Ozone Plan in October 2011.

State ozone standards do not have an attainment deadline but require implementation of all feasible measures to achieve attainment at the earliest date possible.

Particulate Matter Plans

The Air Basin was designated nonattainment of state and federal health-based air quality standards for PM10. To meet Clean Air Act requirements for the PM10 standard, the SJVAPCD adopted a PM10 Attainment Demonstration Plan (Amended 2003 PM10 Plan and 2006 PM10 Plan), which has an attainment date of 2010.

The SJVAPCD adopted the 2007 PM10 Maintenance Plan and Request for Redesignation (2007 PM10 Plan) on September 20, 2007. The 2007 PM10 Plan contains modeling demonstrations that show the Air Basin will not exceed the federal PM10 standard for 10 years after the expected EPA redesignation, monitoring, and verification measures, and a contingency plan. Even though EPA revoked the federal annual PM10 standard, the 2007 PM10 Maintenance Plan addresses both the annual and 24-hour standards because both standards were included in the EPA-approved State Implementation Plan. EPA finalized the determination that the Air Basin attained the PM10 standards on October 17, 2007, effective October 30, 2007. On September 25, 2008, EPA redesignated the Air Basin as attainment for the federal PM10 standard and approved the PM10 Maintenance Plan.

State PM10 standards have no attainment planning requirements, but air districts must demonstrate that all measures feasible for the area have been adopted.

The Air Basin is designated nonattainment for Federal PM2.5 standards. EPA set their first PM2.5 standards in 1997, and they strengthened the 24-hour standard in 2006. Building upon the strategy used in the 2007 Ozone Plan, the SJVAPCD agreed to additional control measures to reduce directly produced PM2.5. The SJVAPCD's Governing Board adopted the 2008 PM2.5 Plan on April 30, 2008. The plan estimates that the SJVAB will reach the PM2.5 standard by 2014. The CARB approved the Plan on May 22, 2008. EPA approved most provisions of the 2008 PM2.5 Plan effective January 9, 2012. The SJVAPCD's plan addressing EPA's 2006 revised PM2.5 standard is due to EPA in December 2012.

Rules Applicable to the Project

The SJVAPCD rules and regulations that apply to this project include but are not limited to the following:

SJVAPCD Rule 2201 – New and Modified Stationary Source Review;

SJVAPCD Rule 3180 – Administrative Fees for Indirect Source Review (ISR). The purpose of this rule is to recover the SJVAPCD's costs for administering the requirements of Rule 9510 (Indirect Source Review);

SJVAPCD Rule 4002 - National Emissions Standards for Hazardous Air Pollutants. The purpose of the rule is to incorporate the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63,

Chapter I, Subchapter C, Title 40, Code of Federal Regulations to protect the health and safety of the public from hazardous air pollutants, such as asbestos;

SJVAPCD Rule 4102 – Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials;

SJVAPCD Rule 4601 – Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling;

SJVAPCD Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641;

SJVAPCD Rule 4901 - Wood Burning Fireplaces and Wood Burning Heaters. This rule would apply to the residential component of the project;

SJVAPCD Regulation VIII – Fugitive PM10 Prohibitions. Rule 8011-8081 are designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc.;

SJVAPCD Rule 9410 – Employer Based Trip Reduction. The purpose of this rule is reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, VOC and PM. The rule would require larger employers (those with 100 or more eligible employees) to establish employee trip reduction programs to reduce VMT, reducing emissions associated with work commutes. The rule uses a menu-based Employer Trip Reduction Implementation Plan and periodic reporting requirements to evaluate performance on a phased-in compliance schedule; and

SJVAPCD Rule 9510 – Indirect Source Review. This rule reduces the impact of NOx and PM10 emissions from growth on the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through onsite mitigation, offsite SJVAPCD-administered projects, or a combination of the two. This rule applies to new developments seeking a final discretionary approval that are over a certain threshold size. Any of the following projects require an application to be submitted unless the projects have mitigated emissions of less than two tons per year each of NOx and PM10. Projects that are at least:

- 50 residential units;
- 2,000 square feet of commercial space;
- 9,000 square feet of educational space;
- 10,000 square feet of government space;

- 20,000 square feet of medical or recreational space;
- 25,000 square feet of light industrial space;
- 39,000 square feet of general office space;
- 100,000 square feet of heavy industrial space; and
- Or, 9,000 square feet of any land use not identified above.

Compliance with Rule 9510 (ISR)

Compliance with SJVAPCD Rule 9510 reduces the emissions impact of the project through incorporation of onsite measures as well as payment of an offsite fee that funds emission reduction projects in the Air Basin. The emissions analysis for Rule 9510 is highly detailed and is dependent on the exact project design that is expected to be constructed or installed. Compliance with Rule 9510 is separate from the CEQA process, though the control measures used to comply with Rule 9510 may be used to mitigate CEQA impacts. Minor changes to project components between the CEQA analysis and project construction often occur. An example of such a change is a change in construction year, operational year, etc. The required amounts of emission reductions required by Rule 9510 are as follows:

Construction Exhaust:	20 percent of the total NOx emissions, and 45 percent of the total PM10 emissions.
Operational Emissions:	33 percent of NOx emissions over the first 10 years, 50 percent of the PM10 emissions over the first 10 years.

Rule 9510 requires the submission of an Air Impact Assessment application to the SJVAPCD no later than applying for the final discretionary permit. The proposed project will comply with this requirement at the time final discretionary permits are sought.

Fresno Council of Governments/Regional Transportation Plan

The Fresno Council of Governments (Fresno COG) is the Regional Transportation Planning Agency (RTPA) for the Fresno County region, a designation given by the State of California. Under federal legislation, it is also designated as the Metropolitan Planning Organization (MPO).

Fresno COG’s primary functions are transportation planning and programming. As a state-designated RTPA and federally-designated MPO for Fresno County, Fresno COG must comply with both designation requirements.

Fresno COG prepares a Regional Transportation Plan (RTP) that looks 25 years into the future, and sets policies for a wide variety of transportation options and projects. It guides how and where people and goods will travel by identifying both existing and needed transportation facilities.

Fresno COG prepares the region's Federal Transportation Improvement Program, a four-year program of financially constrained transportation projects consisting of highway, transit, bicycle, and pedestrian projects that are selected through an approved project selection process.

Fresno COG is required to document that transportation programs, plans, and projects are consistent with, or "conform" to the state and federal plans to protect air quality. Thus, transportation planning involves not only Fresno County agencies, but the local Air District, the other seven counties, as well as state and federal agencies.

2014 Regional Transportation Plan

The Fresno COG is in the process of preparing the 2014 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). The 2014 RTP is a planning document to be developed by Fresno COG in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the California Department of Transportation (Caltrans), and other stakeholders, including transportation system users.

Following the passage of Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006, which specifies that by the year 2020, greenhouse gas (GHG) emissions within the State must be at 1990 levels, Senate Bill 375 (SB 375) – The Sustainable Communities and Climate Protection Act of 2008 was signed into law as the framework for achieving greenhouse gas emissions reductions from land use and transportation planning.

SB 375 includes four primary findings related to the RTP/SCS development process:

- That the ARB develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Fresno COG;
- That the Fresno COG, during the next RTP update is required to prepare an SCS that specifies how the GHG emission reduction target set by ARB will be achieved. IF the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Fresno COG;
- Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Fresno County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target; and
- Requires that Fresno COG conduct the Regional Housing Needs Assessment (RHNA) process consistent with the RTP/SCS process and that the RHNA allocations be consistent with the development pattern in the SCS.

Although the 2014 RTP/SCS specifically targets GHG emission reductions, strategies that reduce GHG emissions have the co-benefit of also reducing criteria air pollutants.

San Joaquin Valley Regional Blueprint

In early 2006 the eight Councils of Governments in the San Joaquin Valley came together in an unprecedented effort to develop a coordinated valley vision – the San Joaquin Valley Regional

Blueprint. This eight county venture is being conducted in each county, and has recently been integrated to form a preferred vision for future development throughout the Valley to the year 2050.

On April 1, 2009 the San Joaquin Valley (SJV) Regional Policy Council reviewed the Valley COGs' collaborative work on the Blueprint and took the following actions:

- Adopted a list of Smart Growth Principles to be used as the basis of Blueprint planning in the San Joaquin Valley; and
- Adopted Scenario B+ as the Preferred Blueprint Growth Scenario for the San Joaquin Valley to the year 2050. This preferred scenario will serve as guidance for the Valley's local jurisdictions with land use authority as they update their general plans.

LOCAL

City of Fresno

The City of Fresno is the local government with the authority over land-use decisions for this project. The project is covered by the City of Fresno General Plan and the West Area Community Plan. The Community Plan takes precedence over the General Plan pursuant to Fresno Municipal Code, Chapter 12, Article 6.

The 2025 Fresno General Plan includes the objective to cooperate with other jurisdictions and agencies in the San Joaquin Valley Air Basin and to take necessary actions to achieve and maintain compliance with state and federal air quality standards. The proposed project is required to follow any City of Fresno rules, regulations. Mitigation measures previously developed and adopted as part of the General Plan MEIR will be made mitigation on this Project. These are set forth below.

2025 General Plan

In response to Assembly Bill (AB) 170 requirements, the City of Fresno amended its 2025 Fresno General Plan Resource Conservation Element/Air Quality and Global Climate Change Section by adopting Plan Amendment No. A-09-02 in June 2009. This plan amendment revised existing air quality policies for reducing criteria pollutants. The following General Plan policies are applicable to the project:

- Policy G-1A-a Support and encourage regional, state and federal programs and actions for the improvement of air quality;
- Policy G-1A-b As affirmed by Resolution of the City Council on April 9, 2002, implement the list of Reasonably Available Control Measures (RACM) submitted by the San Joaquin Valley Air Pollution Control District (SJVAPCD) to the Environmental Protection Agency as part of the Ozone Attainment Plan designed to reduce ozone forming emissions from operations and/or services the city controls;

- Policy G-1A-c Preserve reasonable compatibility between Federal/State Air Quality Attainment and Maintenance Plans and the Fresno General Plan and its resulting urban development through the following implementation measures:
 - (1) Develop and incorporate air quality maintenance considerations in the preparation and review of land use plans and development proposals;
 - (2) Maintain internal consistency within the general plan between policies and programs for air quality resource conservation and the policies and programs of other general plan elements;
 - (3) Utilize appropriate computer models (software recommended by San Joaquin Valley Air Pollution Control District or other air quality agencies) to evaluate air quality impacts of projects that require environmental review by the City of Fresno; and
 - (4) Information regarding land use plans, development projects, and amendments to development regulations will continue to be routed to the San Joaquin Valley Air Pollution Control District for that agency's review and comment on potential air quality impacts.

- Policy G-1A-d Continue to implement broad scale general plan strategies to decrease the generation of air pollution through the reduction of vehicle miles traveled, excessive vehicle traffic congestion and excessive engine idling by implementation of public transportation and other alternatives to private automobile travel;

- Policy G-1A-e Maintain the following general plan land use policies and supportive city regulations to implement air quality improvement through the planning process:
 - (1) Multi-use activity center and high-intensity transportation corridor concepts that locate the most intensive commercial and employment activities so that they are proximal to higher density residential areas or are readily accessible from main transportation routes;
 - (2) Contiguous urban expansion through implementation of the city's Urban Growth Management program and by agreements with the county that control or preclude urban development outside incorporated boundaries;
 - (3) Infill and appropriately intensified development within the center city and other appropriate locations near transportation routes to reduce peripheral urban development. This is encouraged through plans and policies that endorse more intensive land uses and use of incentives such as those available in redevelopment areas and the Fresno Enterprise Zone, Community Development Block Grant (CDBG) funding for public improvements, and development fee or public improvement cost reductions funded by appropriate council approved programs and mechanisms. As part of the evaluation process for projects incorporating higher development intensities, infrastructure needs for water, sewer, and drainage services shall be considered;

- (4) Mixed land use development guidelines that provide more pedestrian-oriented neighborhoods by siting commercial, light industrial, institutional (school, church) and office uses within residential areas. The city's Local Planning and Procedures Ordinance allows for special permits and master-planned developments which integrate compatible mixed uses, however, a comprehensive revision of the Zoning Ordinance is appropriate to facilitate more innovative development concepts;
- (5) Residential density transfer provides for the reallocation of dwelling units within specified areas where transportation and other infrastructure can support increased densities while achieving implementation of the over-all planned density level of the applicable general, community or specific plan land use designations. As part of the evaluation process for projects incorporating higher densities, infrastructure needs for water, sewer, and drainage services shall be considered;
- (6) Subdivision and other residential development designs which facilitate pedestrian access to bus stops and other transportation routes;
- (7) Maintain and improve transit-related requirements for development, including on-site bus parking and loading lanes with passenger and driver facilities at major shopping centers and other high-traffic locations;
- (8) Expand programs to reduce vehicle miles traveled, stop-and-go traffic, and traffic congestion and in order to improve traffic flow. Particular effort should be placed on further improvement of traffic signalization to reduce stop-and-go traffic, which causes excess vehicle emissions from excessive idling. This program requires various strategies and equipment, including optimized signal timing, interconnected signals, traffic-actuated signals, computer based controls, channelized intersections, and additional turn lanes. Signalization changes should be done in consultation with Caltrans when effects will occur within the operational limits of a state highway ramp or when it will significantly change traffic volumes in and near ramp termini;
- (9) Continue to work with federal, state, and regional agencies and stakeholders to expand opportunities for multi-modal transportation. The City shall continue to seek funding for projects which complete transportation networks, utilize multiple modes of transportation, and provide, enhance, or sustain amenities for non-motorized transportation such as tree shading for trails and bikeways (examples of available funding include, but would not be limited to, Measure C funds for Transit-Oriented Development; Caltrans grants for “walkable, livable and sustainable communities”) , and shall utilize incentives found to be appropriate. As part of this overall strategy, the City shall continue to support high-speed rail and shall guide siting of a downtown Fresno high-speed rail station to be integrated into the multi-modal transportation network;
- (10) Complete the city's network of alternative bicycle and pedestrian transportation routes, and allow for implementation of new forms of non-motorized transportation such as neighborhood electric vehicles, via the Master Trail system's pedestrian and bikeway

components, bicycle lanes on streets, and ancillary safety and convenience facilities (such as neighborhood electric vehicle lanes, where appropriate) to encourage use of these alternative modes of transport; and

(11) Provide for installation and maintenance of additional landscaping which helps maintain and improve air quality, by continuing to increase the extent of landscaped areas in the city using street trees, parking lot shading, median islands, and landscape buffers.

- Policy G-1A-f Maintain the city's construction standards that prohibit coal-fired heaters and installation of new wood-burning heaters and fireplaces;
- Policy G-1A-g Support and encourage employer implementation of staggered work hours and employee incentives to use carpools, public transit and other measures to reduce vehicular use and traffic congestion; and
- Policy G-1A-i Encourage development proponents to offset or mitigate project air pollution emissions by buying and removing older, higher-polluting vehicles from service.

2025 General Plan Master Environmental Impact Report Mitigation Measures

Mitigation Measure B-6. New development projects and major street construction projects shall be designed with consideration and implementation of appropriate features (considering safety, convenience and cost-effectiveness) to encourage walking, bicycling, and public transportation as alternative modes to the automobile.

Mitigation Measure B-7. Bicycle and pedestrian travel and use of public transportation shall be facilitated as alternative modes of transportation including, but not limited to, provision of bicycle, pedestrian and public transportation facilities and improvements to connect residential areas with public facilities, shopping and employment. Adequate rights-of-way for bikeways, preferably as bicycle lanes, shall be provided on all new major streets and shall be considered when designing improvements for existing major streets.

Mitigation Measure C-1. In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, the City shall take the following necessary actions to achieve and maintain compliance with state and federal air quality standards and programs:

- a. Develop and incorporate air quality maintenance considerations into the preparation and review of land use plans and development proposals;
- b. Maintain internal consistency within the General Plan between policies and programs for air quality resource conservation and the policies and programs of other General Plan elements;
- c. City departments preparing environmental review documents shall use computer models (software approved by local and state air quality and congestion management agencies) to estimate air pollution impacts of development entitlements, land use plans and amendments to land use regulations;

- d. Adopted state and SJVAPCD protocols, standards, and thresholds of significance for greenhouse gas emissions shall be utilized in assessing and approving proposed development projects; and
- e. Continue to route information regarding land use plans, development projects, and amendments to development regulations to the SJVAPCD for that agency's review and comment on potential air quality impacts.

Mitigation Measure C-2. For development projects potentially meeting SJVAPCD thresholds of significance and/or thresholds of applicability for the Indirect Source Review Rule (Rule 9510) in their unmitigated condition, project applicants shall complete the SJVAPCD Indirect Source Review Application prior to approval of the development project. Mitigation measures incorporated into the ISR analysis shall be incorporated into the project as conditions of approval and/or mitigation measures, as may be appropriate.

Physical Setting (Existing)

The project is located in the City of Fresno, which is located in the San Joaquin Valley Air Basin (Air Basin) (see Figure 3.3-1). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location and season.

REGIONAL AIR QUALITY

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal and, consequently, their effect on air quality. The combination of topography and inversion layers generally prevents dispersion of air pollutants in the Air Basin.

Topography

The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation). The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants.

Climate and Meteorology

The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight is a catalyst in the formation of some air pollutants (such as ozone), and the Air Basin averages more than 260 sunny days per year. Temperatures in the Fresno area range from an average high of 98.3 degrees Fahrenheit (°F) in July to an average low of 37.3°F in December. The average annual rainfall in the project area as recorded between 1948 and 2010 was 10.9 inches.



 Quad Knopf	<h2>CALIFORNIA AIR BASINS</h2>	Figure 3.3-1
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Dominant Airflow

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. Marine air moves into the Air Basin from the San Joaquin River Delta. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Mojave Desert Air Basin portion of Kern County. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

Inversions

Inversions are also an important component of regional air quality. In general, air temperature decreases with distance from the earth's surface, creating a gradient from warmer air near the ground to cooler air at elevation. Under normal circumstances, the air close to the earth warms as it absorbs surface heat and begins to rise. Winds occur when cooler air rushes in to take the place of the rising warm air. The wind and upward movement of air causes "mixing" in the atmosphere and can carry away or dilute pollution. Inversions occur when a layer of warm air sits over cooler air, trapping the cooler air beneath. These inversions trap pollutants from dispersing vertically and the mountains surrounding the Air Basin trap the pollutants from dispersing horizontally. Strong temperature inversions occur throughout the Air Basin in the summer, fall, and winter. Daytime temperature inversions occur at elevations of 2,000 to 2,500 feet above the San Joaquin Valley floor during the summer and at 500 to 1,000 feet during the winter. The result is a relatively high concentration of air pollution in the valley during inversion episodes. These inversions cause haziness, which, in addition to moisture, may include suspended dust, a variety of emissions from vehicles, particulates from wood stoves, and other pollutants.

Air Pollutant Emissions Inventory

An emissions inventory is an account of the amount of air pollution generated by various emissions sources. To estimate the sources and quantities of pollution, the California Air Resources Board (ARB), in cooperation with local air districts, other government agencies, and industry, maintains an inventory of California emission sources. Sources are subdivided into the four major emission categories: mobile, stationary, area wide, and natural sources.

Mobile sources include on-road sources and off-road mobile sources. The on-road emissions inventory, which includes automobiles, motorcycles, and trucks, is based on an estimation of population, activity, and emissions of the on-road motor vehicles used in California. The off-road emissions inventory is based on an estimate of the population, activity, and emissions of various off-road equipment, including recreational vehicles, farm and construction equipment, lawn and garden equipment, forklifts, locomotives, commercial marine ships, and marine pleasure craft.

Stationary sources are large, fixed sources of air pollution, such as power plants, refineries, and manufacturing facilities. Stationary sources also include aggregated point sources. These

include many small point sources, or facilities, that are not inventoried individually but are estimated as a group and reported as a single-source category. Examples include gas stations and dry cleaners. Each of the local air districts estimates the emissions for the majority of stationary sources within its jurisdiction. Stationary source emissions are based on estimates made by facility operators and local air districts. Emissions from specific facilities can be identified by name and location.

Area wide sources include source categories associated with human activity that take place over a wide geographic area. Emissions from area wide sources may be either from small, individual sources, such as residential fireplaces, or from widely distributed sources that cannot be tied to a single location, such as consumer products, and dust from unpaved roads or farming operations (such as tilling).

Natural, or non-anthropogenic, sources include source categories with naturally occurring emissions such as geogenic (e.g., petroleum seeps), wildfires, and biogenic emissions from plants.

Fresno County Emissions Inventory

Emissions inventory information is compiled by ARB and is available on its Almanac Emission Projection Data website. Table 3.3-3 summarizes Fresno County's most recently available emissions inventory estimate emissions for the main pollutants of concern in the Air Basin. Included are reactive organic gases (ROG), carbon monoxide (CO), oxides of nitrogen (NOx), and particulate matter (PM). Particulate matter is a general category that is further divided by the size of the particulates, into PM10 for particulates 10 microns or less in diameter, and PM2.5 for particulates 2.5 microns or less in diameter. More information on the general sources and health effects of these pollutants is available below under the Pollutants of Concern section.

ROG. Natural sources contributed the majority of ROG emissions in Fresno County in 2008, generating approximately 43 percent of the total inventory. Biogenic (plant-generated) emissions constituted the majority of natural source emissions. The next largest contributor of ROG emissions came from area sources with approximately 25 percent of the total inventory. Within area wide sources, the largest single contributor of ROG emissions was farming operations, with 34 percent of the County's total area wide ROG inventory. Mobile sources accounted for approximately 21 percent of the 2008 emissions inventory.

CO. Mobile sources generated the majority of CO emissions in the County at approximately 63 percent of the total CO inventory, with on-road motor vehicles contributing approximately 42 percent. Light-duty cars and trucks are the predominant source of on-road vehicles, contributing approximately 25 percent of the County's total CO inventory.

NOx. Mobile sources generated the majority of NOx emissions in the County at approximately 79 percent of the total NOx inventory, with on-road motor vehicles contributing approximately 56 percent. Heavy-duty diesel trucks are the predominant source of NOx from on-road vehicles, contributing 38 percent of the County's total NOx inventory.

**Table 3.3-3
2008 Fresno County Emissions Inventory**

Emissions Classification	Emission Category	Pollutants (tons per day)				
		ROG	CO	NO _x	PM ₁₀	PM _{2.5}
Stationary	Fuel Combustion	0.83	8.6	11.57	1.25	1.19
	Waste Disposal	1.46	0.06	0.03	0.03	0.03
	Cleaning and Surface Coatings	6.19	—	—	0.01	0.01
	Petroleum Production and Marketing	3	0.01	0.03	0.00	0.00
	Industrial Processes	5.21	0.25	5	2.92	1.65
Area wide	Solvent Evaporation	15.11	—	—	—	—
	Miscellaneous Processes	21.15	110.3	6.89	71.98	21.66
Mobile	On-Road Motor Vehicles	17.16	154.68	63.35	2.79	2.23
	Other Mobile Sources	13.4	77.32	25.54	1.64	1.47
Natural (Non-Anthropogenic)	Biogenic Sources	62.88	—	—	—	—
	Geogenic Sources	0.05	—	—	—	—
	Wildfires	1.01	14.63	0.46	1.49	1.26
Fresno County Total*	147.45	365.85	112.87	82.11	29.50	

Notes:

Total based on non-rounded emissions estimates.

Source: California Air Resources Board, 2009.

PM₁₀. For PM₁₀, area wide sources contributed approximately 88 percent of the 2008 inventory. The main PM₁₀-generating, area wide sources include farming operations, fugitive windblown dust, and paved and unpaved road dust.

PM_{2.5}. Area wide sources contributed approximately 73 percent of the 2008 Fresno County inventory. The main PM_{2.5}-generating area wide source came from managed burning and disposal, contributing 31 percent of the County's total PM_{2.5} emissions. Other major sources include farming operations and residential fuel combustion, contributing 21 percent of the total inventory. Mobile sources contributed approximately 8 percent of the County's total PM_{2.5} inventory.

LOCAL AIR QUALITY

Existing local air quality, historical trends, and projections of air quality are best evaluated by reviewing relevant air pollutant concentrations from near the project area. The ARB and the SJVAPCD operate eight air monitoring stations in Fresno County. The Fresno Sierra Sky Park monitoring station, located 5.3 miles northeast of the project site is the closest monitoring station to the project site; it measures gaseous (ozone, carbon monoxide, nitrogen dioxide) and

meteorological data. The closest monitoring station that measures particulate matter is the Fresno First Street monitoring station; it measures PM10 and PM2.5 and is located 8.3 miles south of the project site. The Sierra Sky Park monitoring station is operated by the ARB and the SJVAPCD, the Fresno First Street monitoring station is operated by the ARB. Air quality monitoring networks are designed to monitor areas with: high population densities, areas with high pollutant concentrations, areas impacted by major pollutant sources, and areas representative of background concentrations. Table 3.3-4 summarizes 2008 through 2011 published monitoring data from ARB's Aerometric Data Analysis and Management System for both stations.

Local Sources of Air Pollutants

Nearby sources of air pollution include mobile source emissions (traffic) from Grantland Avenue and Shields Avenue and stationary source emissions from Lamanuzzi & Pantaleo (agricultural dehydrators). Lamanuzzi & Pantaleo operates a fresh grape processing line with a permit to operate from the SJVAPCD. According to the permit to operate, the facility operates a total of 90 days per year for nine hours per day. Additional sources of air pollution include fugitive dust (PM10 and PM2.5) from tilling, windblown dust, and agricultural equipment exhaust from nearby fields under agricultural production. The project site itself has been intermittently used in agricultural production.

As shown in Table 3.3-4, ambient air pollution concentrations in the project area regularly exceeded the state 1-hour ozone standard and the federal 8-hour standard in the last 4 years. In the same timeframe, the project area exceeded the state daily PM10 standard and the federal PM2.5 standards. However, the project area did not exceed the federal or state CO standards, nor did the project area exceed the federal PM10 standard.

SENSITIVE RECEPTORS

Certain populations, such as children, the elderly, and persons with preexisting respiratory or cardiovascular illness, are particularly sensitive to the health impacts of air pollution. For purposes of CEQA, the SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. Office workers may also be considered sensitive receptors, based on their proximity to sources of toxic air contaminants and that workers may be exposed over the duration of their employment. The nearest sensitive receptors to the project are the residential homes adjacent to the east side of Grantland Avenue and the south side of Shields Avenue and the Deran Koligian Education Center on the east side of Grantland. Other sensitive receptors include:

- Roosevelt Elementary School 0.28 miles south of the project's south-western boundary;
- Glacier Point Middle School 0.47 miles east of the project's central-eastern boundary; and
- Harvest Elementary School 0.42 miles east of the project's north-eastern boundary.

**Table 3.3-4
Air Quality Monitoring Summary**

Pollutant	Averaging Time (Units)	2008	2009	2010	2011
Ozone (O ₃) ^a	State Maximum 1 Hour (ppm)	0.138	0.119	0.138	0.115
	Days > State Standard (0.09 ppm)	19	20	14	20
	Maximum Federal 8 Hour (ppm)	0.122	0.104	0.114	0.099
	Maximum State 8 Hour (ppm)	0.122	0.104	0.115	0.100
	Days > 2008 Federal Standard (0.075 ppm)	39	34	35	45
	Days > State Standard (0.07 ppm)	61	48	56	70
Nitrogen dioxide (NO ₂) ^a	Annual Average (ppm)		0.007	*	*
	Exceed Federal Annual Average Standard (0.053 ppm)		No	--	--
	Exceed State Annual Average Standard (0.03 ppm)		No	--	--
	Maximum 1 Hour (ppm)	0.056	0.044	0.034	0.039
	Days > Federal Standard [100 ppb (0.100 ppm)]	0	0	0	0
	Days > State Standard (0.18 ppm)	0	0	0	0
Sulfur dioxide (SO ₂) ^b	Maximum 24 Hour (ppm)	0.003	0.005	0.004	0.004
	Days > Federal Standard (0.14 ppm)	0	0	0	0
	Days > State Standard (0.04 ppm)	0	0	0	0
	Annual Average (ppm)	0.001	0.001	0.000	0.000
	Days > Federal Standard (0.030 ppm)	0	0	0	0
Carbon monoxide (CO) ^a	Maximum 1 Hour (ppm)	1.47	2.0	1.29	2.26
	Days > Federal Standard (35 ppm)	0	0	0	0
	Days > State Standard (20 ppm)	0	0	0	0
	Maximum 8 Hour (ppm)	1.03	1.40	0.90	1.58
	Days > Federal Standard (9 ppm)	0	0	0	0
	Days > State Standard (9ppm)	0	0	0	0
Fine Particulate Matter (PM10) ^b	Federal Maximum 24 Hour (µg/m ³)	77.7	71.9	88.6	94.3
	State Maximum 24 Hour (µg/m ³)	78.3	75.3	85.6	99.5
	Est. Days > Federal Standard (150 µg/m ³)	0	0	0	0
	Est. Days > State Standard (50 µg/m ³)	90.5	50.2	30.6	53.9
	State Annual Average (20 µg/m ³)	35.1	30.9	25.9	29.6
Ultra Fine Particulate Matter (PM2.5) ^b	Federal Annual Average (15 µg/m ³)	17.3	15.1	13.0	15.4
	State Annual Average (12 µg/m ³)	21.2	15.1	16.5	15.9
	Federal Maximum 24 Hour (µg/m ³)	79.5	82.3	58.3	77.3
	Est. Days > Federal Standard (35 µg/m ³)	50.9	35.3	21.7	39.0

Notes:

a. Measurements reported from the Fresno Sierra Sky Park monitoring station

b. Measurements reported from the Fresno First Street monitoring station

* Insufficient data available to determine the value

-- Undetermined

> = exceed ppm = parts per million

Exceedances are listed in bold.

1. The ARB does not report 1-hour average CO concentrations in its database, only 8-hour CO concentrations. Therefore, the 1-hour CO concentration was derived by dividing the 8-hour concentration by 0.7.
 2. Measurements of PM10 and PM2.5 are made every sixth day. Data is the estimated number of days that the standard would have been exceeded had measurements been collected every day.
- Source: California Air Resources Board, 2012.

POLLUTANTS OF CONCERN

For reasons described below in the Regulatory Framework section, the criteria pollutants of greatest concern for the project area are ozone, PM10, and PM2.5. Although the Air Basin is in attainment of the federal and state carbon monoxide standards, carbon monoxide is a pollutant of concern, due to the potential for localized “hotspots” to occur. Other pollutants of concern are toxic air contaminants and asbestos. The following provides a summary of the pollutants of concern for the project area.

Ozone

Ozone is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include ROG and NOx (ozone precursors are discussed below), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Often, the effects of emitted ROG and NOx are felt a distance downwind of the emission sources. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials.

Ozone can irritate lung airways and cause inflammation much like a sunburn. Other symptoms include wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities. People with respiratory problems are most vulnerable, but even healthy people who are active outdoors can be affected when ozone levels are high. Chronic ozone exposure can induce morphological (tissue) changes throughout the respiratory tract, particularly at the junction of the conducting airways and the gas exchange zone in the deep lung. Anyone who spends time outdoors in the summer is at risk, particularly children and other people who are more active outdoors. Even at very low levels, ground-level ozone triggers a variety of health problems, including aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis.

Ozone also damages vegetation and ecosystems. It leads to reduced agricultural crop and commercial forest yields; reduced growth and survivability of tree seedlings; and increased susceptibility to diseases, pests, and other stresses such as harsh weather. In the United States alone, ozone is responsible for an estimated \$500 million in reduced crop production each year. Ozone also damages the foliage of trees and other plants, affecting the landscape of cities, national parks and forests, and recreation areas. In addition, ozone causes damage to buildings, rubber, and some plastics.

Ozone is a regional pollutant, as the reactions forming it take place over time, and it materializes downwind from the sources of the emissions. As a photochemical pollutant, ozone is formed only during daylight hours under appropriate conditions, but it is destroyed throughout the day and night. Thus, ozone concentrations vary, depending upon both the time of day and the location. Even in pristine areas, some ambient ozone forms from natural emissions that are not controllable. This is termed background ozone. The average background ozone concentrations near sea level are in the range of 0.015 to 0.035 parts per million (ppm), with a maximum of about 0.04 ppm.

Reactive Organic Gases

Reactive organic gases (ROG) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions. ROG consist of nonmethane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. It should be noted that there are no state or federal ambient air quality standards for ROG because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROG are also transformed into organic aerosols in the atmosphere, which contribute to higher PM10 levels and lower visibility.

Because ROG is an ozone precursor, the health effects associated with ROG emissions are due its role in ozone formation and, as discussed above, not due to direct effects.

Nitrogen Oxides

During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides or NO_x. This occurs primarily in motor vehicle internal combustion engines, and fossil fuel-fired electric utility facilities and industrial boilers. The pollutant NO_x is a concern because it is an ozone precursor, which means that it helps form ozone. When NO_x and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight and heat to form ozone. NO_x can also be a precursor to PM10 and PM2.5.

One of the most important health effects associated with NO_x emissions is related to its role in ozone formation, as discussed above. Its role in the secondary formation of ammonium nitrate results in particulate health effects described in the next section. Nitrogen dioxide (NO₂) is the largest and most important component of NO_x. NO₂ acts mainly as an irritant affecting the mucosa of the eyes, nose, throat, and respiratory tract. Extremely high-dose exposure (as in a building fire) to NO₂ may result in pulmonary edema and diffuse lung injury. Continued exposure to high NO₂ levels can contribute to the development of acute or chronic bronchitis. Low level NO₂ exposure may cause increased bronchial reactivity in some asthmatics, decreased lung function in patients with chronic obstructive pulmonary disease and increased risk of respiratory infections, especially in young children.

Particulate Matter (PM10 and PM2.5)

Particulate matter is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small that they can only be detected using an electron microscope. The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometers (μm) in diameter pose the greatest problems, because they can get deep into lungs and the bloodstream. The United States Environmental Protection Agency (EPA) health standards have been established for two categories of particulate matter:

1. PM10 – “inhalable coarse particles” with diameters larger than 2.5 micrometers and smaller than 10 micrometers; and
2. PM2.5 – “fine particles,” with diameters that are 2.5 micrometers and smaller. For reference, PM2.5 is approximately one-thirtieth the size of the average human hair.

Although the PM10 standard is intended to regulate “inhalable coarse particles” that ranged from 2.5 to 10 micrometers in diameter, PM10 measurements contain both fine and coarse particles. These particles come in many sizes and shapes and can be made up of hundreds of different chemicals. Some particles, known as primary particles, are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks, or fires. Others form in complicated reactions in the atmosphere from chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industrial activity, and automobiles. These particles, known as secondary particles, make up most of the fine particle pollution in the United States.

Particle exposure can lead to a variety of health effects. For example, numerous studies link particle levels to increased hospital admissions and emergency room visits—and even to death from heart or lung diseases. Both long- and short-term particle exposures have been linked to health problems. Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function, the development of chronic bronchitis, and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and acute bronchitis, and may increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short-term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all CO emissions nationwide. Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing),

residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are sources of CO indoors.

Motor vehicles are the dominant source of CO emissions in most areas. CO is described as having only a local influence because it dissipates quickly. High CO levels develop primarily during winter, when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Because CO is a product of incomplete combustion, motor vehicles exhibit increased CO emission rates at low air temperatures. High CO concentrations occur in areas of limited geographic size, sometimes referred to as hot spots. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin, reducing the amount of oxygen transported in the bloodstream. The health threat from relatively low levels of CO is most serious for those who suffer from such heart-related diseases as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Toxic Air Contaminants

A toxic air contaminant is defined as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. Toxic air contaminants are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those toxic air contaminants that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Diesel Particulate Matter

ARB identified the PM emissions from diesel-fueled engines as a toxic air contaminant in August 1998 under California's toxic air contaminant program. In California, diesel engine exhaust has been identified as a carcinogen. Most researchers believe that diesel exhaust particles contribute the majority of the risk.

DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40 percent of the statewide total, with an additional 57 percent

attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3 percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report diesel PM emissions also include heavy construction (except highway) manufacturers of asphalt, paving materials and blocks, and electrical generation.

DPM is a subset of PM_{2.5}—diesel particles are typically 2.5 microns and smaller. In a document published in 2002, the EPA noted that in 1998, diesel PM made up about 6 percent of the total PM_{2.5} inventory nationwide. The complex particles and gases that make up diesel exhaust have the physical properties of organic compounds that account for 80 percent of the total particulate matter mass consisting of hydrocarbons and their derivatives and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust. The chemical composition and particle sizes of DPM vary among different engine types (heavy-duty, light-duty), engine operating conditions (idling, accelerating, decelerating), expected load, engine emission controls, fuel formulations (high/low sulfur fuel), and engine year.

Some short-term (acute) health effects of diesel exhaust exposure include eye, nose, throat, and lung irritation, and exposure can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient PM pollution in urban environments. In a 2002 report from the Office of Environmental Health Hazard Assessment (OEHHA) titled “Health Effects of Diesel Exhaust Report,” it was noted that numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. The National Toxicology Program asserted that more serious, long-term health effects of diesel exhaust have demonstrated an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure in its 2005 Report on Carcinogens, Eleventh Edition.

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.

Project construction sometimes requires the demolition of existing buildings where construction occurs. Buildings often include materials containing asbestos, this project involves the demolition of existing structures where asbestos has been identified. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers to the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile

asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs).

The Department of Conservation, Division of Mines and Geology published a guide entitled, “A General Location Guide For Ultramafic Rocks In California - Areas More Likely To Contain Naturally Occurring Asbestos,” dated August 2000, for generally identifying areas that are likely to contain naturally occurring asbestos. According to the California Division of Mines and Geology, rock formations that contain naturally occurring asbestos are known to be present in 44 of California’s 58 counties, including Fresno County.

A review of a map containing areas more likely to have rock formations containing naturally occurring asbestos in California indicates that the project site is not in an area that is likely to contain naturally occurring asbestos. The nearest locations of naturally occurring asbestos shown are approximately 33 miles east of the project site near Pine Flat Dam. As noted in the Division of Mines and Geology’s report, the map only shows the general location of naturally occurring asbestos-containing formations and may not show all potential occurrences.

3.3.2 METHODOLOGY

The methodology follows the GAMAQI, which sets forth recommended thresholds of significance, analysis methodologies, and provides guidance on mitigating significant impacts. Detailed methodology is described in each of the Impact sections below.

The analysis was prepared using a variety of data sources and air quality models. The Traffic Impact Study for the project, prepared by Peters Engineers was used to obtain Level of Service (LOS) and intersection volumes for the CO Hotspot Analysis and average daily trip generation to model operational motor vehicle emissions. The California Emissions Estimator Model (CalEEMod) was used to quantify project related construction and operational emissions. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model incorporates Pavley standards and Low Carbon Fuel standards into the mobile source emission factors. Further, the model identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, air quality impacts resulting from the implementation of the proposed project would be considered significant if the project would:

- a) *Conflict with or obstruct implementation of the applicable air quality plan?*
- b) *Violate any air quality standard or contribute substantially 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?*

While the final determination of whether or not a project is significant is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b), the SJVAPCD recommends that its quantitative and qualitative air pollution thresholds be used to determine the significance of project emissions. These thresholds are discussed under each impact section.

3.3.2 IMPACT ANALYSIS

Impact #3.3.1 – Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

This impact will evaluate the proposed project's potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of construction or operational emissions.

Threshold

The SJVAPCD indicates that all control measures in Regulation VIII: Fugitive Dust Prohibitions are required for all construction sites by regulation. The SJVAPCD's GAMAQI lists additional measures that may be required because of sheer project size or proximity of the project to sensitive receptors. If all appropriate "enhanced control measures" in the GAMAQI are not implemented for these very large or sensitive projects, then construction impacts would be considered significant (unless the Lead Agency provides a satisfactory detailed explanation as to why a specific measure is unnecessary). The GAMAQI also lists additional control measures (Optional Measures) that may be implemented if further emission reductions are deemed necessary by the Lead Agency. Regulation VIII has been updated and expanded since the

GAMAQI guidance was written in 2002. Regulation VIII now includes the “enhanced control measures” contained in the GAMAQI.

The GAMAQI does not require construction emission quantification; however, the SJVAPCD indicated that with the requirement to quantify construction emissions for Rule 9510 and the availability of modeling tools to quantify the emissions, the SJVAPCD now recommends construction emission quantification for all projects large enough to trigger Rule 9510 applicability (i.e., 50 residential units, 2,000 square feet of commercial space, etc.); therefore, Rule 9510 applies to the Master Plan uses. It should be noted that the Master Plan is not the final discretionary approval for the project. The Master Plan will be used to guide the review and approval process of precise development proposals, including tentative maps, site plans, and improvement plans, which will serve as the final discretionary approval and require compliance with Rule 9510.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO_x emissions in the presence of sunlight. Therefore, ROG and NO_x are termed ozone precursors. The Air Basin often exceeds the ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The SJVAPCD established significance thresholds for ozone precursors, ROG and NO_x, and has published them in its GAMAQI. For typical projects, operation-related emissions that exceed the threshold of 10 tons per year for ROG or NO_x, would be considered significant. The threshold for PM₁₀ is not identified in the GAMAQI; however, pursuant to direction provided by the SJVAPCD, 15 tons per year is used as a threshold for large projects such as the proposed project.

The GAMAQI does not have quantitative thresholds for construction emissions. However, the GAMAQI does have operational thresholds for ROG and NO_x of 10 tons per year for each. Since the GAMAQI was published, the SJVAPCD has been recommending use of a PM₁₀ and PM_{2.5} threshold of 15 tons per year. To present a worst-case evaluation, the annual thresholds are compared with the combined construction and operational emissions during the years where said emissions overlap.

The annual significance thresholds to be used for the Master Plan uses for combined operational and construction emissions are as follows:

- 10 tons per year ROG;
- 10 tons per year NO_x;
- 15 tons per year PM₁₀; and
- 15 tons per year PM_{2.5}

Existing Emissions

A portion of the project site has been used for agricultural purposes, which generates fugitive dust (PM10 and PM2.5) from tilling and windblown dust, and ROG, NOx and PM10 from agricultural equipment exhaust. The existing emissions are not estimated to provide a worst-case analysis for the project uses.

Construction Assumptions

Construction of the Westlake Development project would result in the generation of air pollutant emissions. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from onsite and offsite activities. Onsite emissions principally consist of exhaust emissions (NOx, SOx, CO, ROG, PM10, and PM2.5) from heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM10) from disturbed soil. Additionally, paving operations and application of architectural coatings would release ROG emissions. Offsite emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM10 and PM2.5).

The construction emissions were derived using the California Emissions Estimator Model (CalEEMod). There are no current development proposals included as part of the project; therefore, a precise phasing plan is not available. In order to provide a program-level analysis of environmental impacts, phasing assumptions were developed to provide a worst-case scenario to portray maximum emissions on an annual basis during the various construction activities as described.

Summary of Project Buildout

Year of Completion	Single Family	Multi-Family	Commercial	Lake
2016	648 units	-	-	Constructed and filled
2018	703 units	274 units	147,500 sq. ft.	-
2020	702 units	273 units	147,500 sq. ft.	-
Total:	2,053 units	547 units	295,000 sq. ft.	-

Significance of construction emissions is on a tons per year basis. Therefore, to present a worst-case scenario, it is assumed that heavy construction would occur within two to three years per phase. More specific phasing information will occur during discretionary actions involving the Project CUP and building permits. The analysis herein takes into account an aggressive development schedule that in some cases may overstate project impacts. This methodology was undertaken so as to not understate potential project impacts. In addition, commercial square footage is slightly overstated (313,414 was used in the calculations, but the project is proposing only 295,000 sq. ft.). The discrepancy is due to a square footage calculation based on a Floor Area Ratio of 25 percent. These assumptions were based on the estimated number of dwelling units and commercial square footage for operational years included in the traffic analysis and

represents the majority of project emissions. Construction phasing assumptions are shown in Table 3.3-5.

**Table 3.3-5
Construction Phasing Assumptions – Westlake Development Project**

Phase	Year	Phase Duration	Construction Phase Assumptions
Phase 1 (Corresponds to Traffic Impact Study Phases 1 -3)	2014	30 days	Site Preparation of 189 acres (grubbing and land clearing) Equipment: <ul style="list-style-type: none"> ▪ Rubber Tired Dozers (15) ▪ Tractors/Loaders/Backhoes (20)
	2014	60 days	Site Grading of 189 acres. 887,333 cubic yards of soil excavated (based on lake depth of 10 feet) Equipment: <ul style="list-style-type: none"> ▪ Excavators (10) ▪ Graders (5) ▪ Rubber Tired Dozers (5) ▪ Scrapers (10) ▪ Tractors/Loaders/Backhoes (10)
	2014/2016	432 days	Construct 648 single family homes, 24 acres of roadway, 55 acre lake, 13 acres of open space. Equipment: <ul style="list-style-type: none"> ▪ Cranes (5) ▪ Forklifts (15) ▪ Generator Sets (5) ▪ Tractors/Loaders/Backhoes (15) ▪ Welders (5)
	2016	60 days	Asphalt Paving Equipment: <ul style="list-style-type: none"> ▪ Pavers (10) ▪ Paving Equipment (10) ▪ Rollers (10)
	2016	60 days	Paint Buildings Equipment: <ul style="list-style-type: none"> ▪ Air Compressors (5)
			
Phase 2	2016	30 days	Site Preparation of 135.5 acres (grubbing and land clearing) Equipment: <ul style="list-style-type: none"> ▪ Rubber Tired Dozers (12) ▪ Tractors/Loaders/Backhoes (16)
	2016	60 days	Site Grading of 135.5 acres Equipment: <ul style="list-style-type: none"> ▪ Excavators (8) ▪ Graders (4) ▪ Rubber Tired Dozers (4)

Phase	Year	Phase Duration	Construction Phase Assumptions
			<ul style="list-style-type: none"> ▪ Scrapers (8) ▪ Tractors/Loaders/Backhoes (8)
	2016/2018	432 days	<p>Construct 703 single family homes, 274 multifamily homes, and 156,707 square feet of community commercial, uses.</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Cranes (4) ▪ Forklifts (12) ▪ Generator Sets (4) ▪ Tractors/Loaders/Backhoes (12) ▪ Welders (4)
	2018	60 days	<p>Asphalt Paving</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Pavers (8) ▪ Paving Equipment (8) ▪ Rollers (8)
	2018	60 days	<p>Paint Buildings</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Air Compressors (4)
Phase 3	2018	30 days	<p>Site Preparation of 135.5 acres (grubbing and land clearing)</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Rubber Tired Dozers (12) ▪ Tractors/Loaders/Backhoes (16)
	2018	60 days	<p>Site Grading of 135.5 acres</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Excavators (8) ▪ Graders (4) ▪ Rubber Tired Dozers (4) ▪ Scrapers (8) ▪ Tractors/Loaders/Backhoes (8)
	2018/2020	432 days	<p>Construct 702 single family homes, 273 multifamily homes, and 156,707 square feet of community commercial uses.</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Cranes (4) ▪ Forklifts (12) ▪ Generator Sets (4) ▪ Tractors/Loaders/Backhoes (12) ▪ Welders (4)
	2020	60 days	<p>Asphalt Paving</p> <p>Equipment:</p> <ul style="list-style-type: none"> ▪ Pavers (8) ▪ Paving Equipment (8) ▪ Rollers (8)

Phase	Year	Phase Duration	Construction Phase Assumptions
	2020	60 days	Paint Buildings Equipment: <ul style="list-style-type: none"> ▪ Air Compressors (4)

Operational Assumptions

Operational, or long-term, emissions occur over the life of the project and would begin once the uses are in operation. Operational emissions include mobile and area source emissions. Area source emissions are from consumer products, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile emissions from motor vehicles are the largest single long-term source of air pollutants from the project.

Emissions

Air pollutant emissions for the various years of construction and operation are shown in Table 3.3-6. As shown in the table, NO_x emissions are exceeded every year, ROG emissions are exceeded for every year after 2016, and PM₁₀ emissions are exceeded for every after 2018. PM_{2.5} emissions are not exceeded.

**Table 3.3-6
Air Pollutant Emissions (Tons/Year)**

Year	Phase	ROG	NO _x	PM ₁₀	PM _{2.5}
2014	Phase 1 - Construction	6.65	58.64	71.53	4.05
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	Yes	Yes	No
2015	Phase 1 - Construction	3.09	20.37	1.63	1.24
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	Yes	No	No
2016	Phase 1 - Construction	11.73	4.67	0.41	0.39
	Phase 1 – Operation (half-year)	5.66	3.91	4.94	0.46
	Phase 2 - Construction	3.45	24.24	4.06	2.44
	Total	20.84	32.82	9.41	3.29
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	No	No
2017	Phase 1 - Operation	10.99	7.12	9.87	0.90
	Phase 2 - Construction	2.29	14.3	1.55	0.82
	Total	13.28	21.42	11.42	1.72
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	No	No

Year	Phase	ROG	NOx	PM10	PM2.5
2018	Phase 1 - Operation	10.56	6.58	9.86	0.67
	Phase 2 - Construction	14.99	3.32	0.32	0.26
	Phase 2 – Operation (half-year)	8.98	6.44	9.84	0.62
	Phase 3 - Construction	2.88	19.5	3.41	1.94
	Total	37.41	35.84	23.43	3.49
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No
2019	Phase 1 and 2- Operation	31.72	19.12	36.02	8.38
	Phase 3 - Construction	1.92	11.84	1.36	0.60
	Total	33.64	30.96	37.38	8.98
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No
2020	Phase 1 and 2- Operation	26.82	17.26	29.52	1.89
	Phase 3 - Construction	14.88	2.85	0.27	0.22
	Phase 3 – Operation (half-year)	8.35	5.69	9.82	0.62
	Total	50.05	25.80	39.61	2.72
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No
2021	Phase 1 – 3 -Operation	44.16	26.89	49.14	3.11
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No
2025	Phases 1 -3 - Operation	41.26	21.59	49.15	3.09
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No
2030	Phases 1 -3 - Operation	38.39	18.14	49.07	3.05
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No

Source: CalEEMod, Appendix C

As indicated in Table 3.3-6, combined construction and operational emissions would exceed SJVAPCD thresholds between 2016 and 2020. Emissions of ROG and NOx exceed the ozone precursor thresholds, which means the project may contribute to a violation of the ozone standards, this is a significant impact. Emissions of PM10 exceed the SJVAPCD significance threshold, which means that the project may contribute to a violation of the PM10 standards, this is a significant impact.

The Air Basin is in attainment for the nitrogen dioxide ambient air quality standards. The national ambient air quality standard for 1 hour nitrogen dioxide is 0.100 ppm. As shown in Table 3.3-4, the highest 1 hour concentration of nitrogen dioxide is 0.056 ppm, which is below 0.100 ppm. As discussed previously, the project emissions exceed the ozone precursor threshold of 10 tons per year. The ozone threshold was not set to determine exceedances of the nitrogen

dioxide standard. Even though project emissions of NO_x are relatively high, the emissions will be distributed throughout the State and will be dispersed. Rule 9510 will also reduce NO_x emissions in the Air Basin. However, to be conservative and because there is no certain way to determine this impact on a regional basis, this impact is potentially significant and the project could contribute to an exceedance of the nitrogen dioxide standard.

Accordingly, mitigation is proposed to reduce project-related emissions. Mitigation measure #3.3.1a through #3.3.1m would reduce emissions from ROG, NO_x, and PM₁₀. The potential reductions from measures #3.3.1a through #3.3.1m are not calculated because the mitigation would not be enough to reduce pollutants below the significance thresholds because the emissions are so high. Mitigation measure #3.3.1n requires that each development plan comply with Rule 9510, which would reduce 20 percent of the construction-related NO_x emissions and 45 percent of the construction PM₁₀ (exhaust) emissions, 33 percent of operational NO_x over the first 10 years, and 50 percent of the operational PM₁₀ emissions over the first 10 years. However, ROG emissions are not reduced through the rule and reductions would not be sufficient to reduce combined emissions to less than significance thresholds.

The San Joaquin Valley Air Pollution Control District has recommended that large projects whose emissions exceed the thresholds of significance consult with the Air District to develop and implement a Feasible Implementation Plan (FIP) with the goal of reducing project specific impacts on air quality to a less than significant level. This recommendation has been incorporated into the project as Mitigation Measure #3.3.1o and #3.3.1p.

The project would produce minimal emissions of sulfur oxides (SO_x), primarily due to increased regulations for reducing SO_x from fuel. As shown in Appendix C, SO_x emissions are less than one ton per year. As shown in Table 3.3-4, the highest background 24-hour concentration of sulfur dioxide is 0.005 ppm, substantially under the state ambient air quality standard of 0.04 ppm and the federal ambient air quality standard of 0.14 ppm. The project emissions would not cause or contribute to an air quality standard violation for sulfur dioxide. This impact is less than significant.

Other pollutants such as visibility reducing particles, lead, hydrogen sulfide, and vinyl chloride emissions would either not be emitted or would be at low levels. The project would emit CO during construction and operation. Operational emissions of CO are discussed in Impact 3.3.2. The air basin is in attainment of CO standards. The national 1-hour CO standard is 35 ppm and the highest reported concentration of CO is 2.26 ppm, which is well below 35 ppm. While construction emissions of CO are substantial, it is dispersed rapidly, therefore it would not contribute to an exceedance of the CO standards. This impact is less than significant.

Emissions after Mitigation

Table 3.3-7 shows the project's estimated emissions after incorporation of mitigation measures based on the programmatic evaluation of the project. As noted in the mitigation measures, the project applicant will work with the San Joaquin Valley Air Pollution Control District to refine the modeling based on actual construction and operational information that is presently unavailable because of the conceptual nature of the project at this time.

**Table 3.3-7
Mitigated Air Pollutant Emissions (Tons/Year)**

Year	Phase	ROG	NOx	PM10	PM2.5
2014	Phase 1 - Construction	6.65	58.64	71.53	4.05
	Rule 9510 Reductions	N/A	11.73	1.17	N/A
	Subtotal	6.65	46.91	70.36	0
	FIP Reductions	0	-36.92	-55.37	0
	Total	6.65	9.99	14.99	4.05
	Significance Threshold	10	10	15	15
	Significant?	No	No	No	No
2015	Phase 1 - Construction	3.09	20.37	1.63	1.24
	Rule 9510 Reductions	N/A	-4.07	-0.55	N/A
	Subtotal	3.09	16.30	1.08	1.24
	FIP Reductions	0	-6.31	0	0
	Total	3.09	9.99	1.08	1.24
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No
2016	Phase 1 - Construction	11.73	4.67	0.41	0.39
	Rule 9510 Reductions	N/A	-0.93	-0.18	N/A
	Phase 1 – Operation (half-year)	5.66	3.91	4.94	0.46
	Rule 9510 Reductions	N/A	-1.95	-4.94	N/A
	Phase 2 - Construction	3.45	24.24	4.06	2.44
	Rule 9510 Reductions	N/A	-4.85	-0.54	N/A
	Subtotal	20.84	25.09	3.76	3.29
	FIP Reductions	-10.85	-15.1	0	0
	Total	9.99	9.99	3.76	3.29
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No
2017	Phase 1 - Operation	10.99	7.12	9.87	0.9
	Rule 9510 Reductions	N/A	-1.95	-4.94	N/A
	Phase 2 - Construction	2.29	14.30	1.55	0.82
	Rule 9510 Reductions	N/A	-2.86	-0.36	N/A
	Subtotal	13.28	16.61	6.13	1.72
	FIP Reductions	-3.29	-6.62	0	0
	Total	9.99	9.99	6.13	1.72
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No
2018	Phase 1 - Operation	10.56	6.58	9.86	0.67
	Rule 9510 Reductions	N/A	-1.9525	-4.935	N/A

Year	Phase	ROG	NOx	PM10	PM2.5
	Phase 2 - Construction	14.99	3.32	0.32	0.26
	Rule 9510 Reductions	N/A	-0.664	-0.117	N/A
	Phase 2 – Operation (half-year)	8.98	6.44	9.84	0.62
	Rule 9510 Reductions	N/A	-3.22	-9.835	N/A
	Phase 3 - Construction	2.88	19.5	3.41	1.94
	Rule 9510 Reductions	N/A	-3.47	-0.4185	N/A
	Subtotal	37.41	26.53	8.12	3.49
	FIP Reductions	-27.42	-16.54	0	0
	Total	9.99	9.99	8.12	3.49
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No
2019	Phase 1 and 2- Operation	31.72	19.12	36.02	8.38
	Rule 9510 Reductions	N/A	-5.17	-14.77	N/A
	Phase 3 - Construction	1.92	11.84	1.36	0.60
	Rule 9510 Reductions	N/A	-2.92	-0.27	N/A
	Subtotal	33.64	22.87	22.34	8.98
	FIP Reductions	-23.65	-12.88	-7.35	0
	Total	9.99	9.99	14.99	8.98
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No
2020	Phase 1 and 2- Operation	26.82	17.26	29.52	1.89
	Rule 9510 Reductions	N/A	-5.17	-14.77	N/A
	Phase 3 - Construction	14.88	2.85	0.27	0.22
	Rule 9510 Reductions	N/A	-0.56	-0.10	N/A
	Phase 3 – Operation (half-year)	8.35	5.69	9.82	0.62
	Rule 9510 Reductions	N/A	-2.84	-9.82	N/A
	Subtotal	50.05	17.22	14.93	2.73
	FIP Reductions	-40.06	-7.23	0.00	0
	Total	9.99	9.99	14.93	2.73
	Significance Threshold	10	10	15	15
Exceed Significance Threshold?	No	No	No	No	
2021	Phase 1 – 3 -Operation	44.16	26.89	49.14	3.11
	Rule 9510 Reductions	N/A	-5.17	-14.77	N/A
	Subtotal	44.16	21.72	34.37	3.11
	FIP Reductions	-34.17	-11.73	-19.38	0
	Total	9.99	9.99	14.99	0
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	Yes	Yes	Yes	No
2025	Phases 1 -3 - Operation	41.26	21.59	49.15	3.09

Year	Phase	ROG	NOx	PM10	PM2.5
	Rule 9510 Reductions	N/A	-8.02	-24.585	N/A
	Subtotal	41.26	13.58	24.57	3.09
	FIP Reductions	-31.27	-3.59	-9.58	0
	Subtotal	9.99	9.99	14.99	3.09
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No
2030	Phases 1 -3 - Operation	38.39	18.14	49.07	3.05
	Rule 9510 Reductions	N/A	-2.84	-9.82	N/A
	Subtotal	38.39	15.30	39.26	3.05
	FIP Reductions	-28.40	-5.31	-24.27	0
	Total	9.99	9.99	14.99	3.05
	Significance Threshold	10	10	15	15
	Exceed Significance Threshold?	No	No	No	No

Source: Appendix C

Conclusion: The project would exceed the SJVAPCD’s regional thresholds during construction and operation for ROG, NOx and PM10 for various years. If FIP reductions are not considered, such violations would be more frequent and quantitatively significant. Therefore, these would be considered *potentially significant impacts*.

Mitigation Measure #3.3.1a: Prior to issuance of grading permits for each development within the Westlake Development project site, the project applicant shall provide information to the City of Fresno describing the methods by which the following measures will be complied with:

- Off-road equipment used onsite shall achieve a fleet average emissions equal to or less than the Tier II emissions standard of 4.9 grams of NOx per horsepower hour. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards. Tier II emission standards are set forth in Section 2423 of Title 13 of the California Code of Regulations and Part 89 of Title 40 Code of Federal Regulations.
- Construction equipment shall be properly maintained at an offsite location; maintenance shall include proper tuning and timing of engines. Equipment maintenance records and data sheets of equipment design specifications shall be kept on-site during construction.
- Onsite construction equipment shall not idle for more than 5 minutes in any one hour.
- During the building phase, onsite electrical hook ups shall be provided for electric construction tools including saws, drills and compressors, to eliminate the need for diesel powered electric generators.

- Construction workers shall be encouraged to carpool to and from the construction site. Workers shall be informed in writing and a letter shall be placed on file in the City office documenting efforts to carpool.

Mitigation Measure #3.3.1b: Construction contracts shall include a provision that requires all architectural coatings to be zero-volatile organic compound (VOC) paints (assumes no more than 100 grams/liter of VOC) and coatings. All paints shall be applied using either high-volume low-pressure (HVLV) spray equipment or by hand application. For a list of low-VOC paints, see www.aqmd.gov/prdas/brochures/paintguide.html.

Mitigation Measure #3.3.1c: Prior to issuance of grading permits, the project proponent will provide the City of Fresno with a traffic control plan that describes in detail safe detours around the project construction site, provides temporary traffic control (i.e., flag person) during construction-related truck-hauling activities, and minimizes traffic flow interference from construction activities. The plan may include:

- Advance public notice of alternative routes;
- Use of public transportation and satellite parking areas with a shuttle service for construction personnel;
- Schedule operations that affect traffic for off-peak hours;
- Minimize obstruction of through-traffic lanes; and
- Provide a flag person to guide traffic properly and ensure safety at construction sites.

Mitigation Measure #3.3.1d: Construction staging and queuing areas shall not be located within 500 feet of sensitive receptors.

Mitigation Measure #3.3.1e: The project shall utilize high albedo construction materials (Cool Paving) to increase the reflectivity of roads, driveways, and other paved surfaces. Project site plans shall indicate locations where the special paving will be installed. Standard paving materials will only be allowed in areas where technical or safety considerations (as determined by the City’s Public Works Director) preclude use of the Cool Paving materials.

Mitigation Measure #3.3.1f: Construction plans shall provide for the installation of automated lighting and thermal controls in all non-residential facilities. The City of Fresno will verify compliance during review of construction plans.

Mitigation Measure #3.3.1g: Construction plans shall include one or more of the following roofing technologies to reduce energy consumption:

- High albedo and low-emissive roofs;
- EPA “Energy Star” approved roofing materials; and

- “Green Roof” Technology.

Mitigation Measure #3.3.1h: Construction plans shall address passive energy conservation through building orientation, use of natural ventilation and shading in a way that does not compromise the thermal integrity of the building or the implementation of mitigation measure #3.3.1i. The City of Fresno will verify compliance during review of construction plans.

Mitigation Measure #3.3.1i: Each development project within the Westlake Development project site shall be designed to achieve a minimum 20 percent energy efficiency above 2008 Title 24 standards. Prior to issuance of building permits, the project applicant shall provide a third-party verification to the City of Fresno demonstrating that the project achieves this energy efficiency goal.

Mitigation Measure #3.3.1j: Site plans submitted to the City of Fresno shall include sidewalks and bicycle lanes appropriately sized for anticipated future pedestrian/bicycle use on all adjacent and interior roadways. Ensure that the project will provide multiple and/or direct pedestrian and/or bicycle access to adjacent, complementary land uses and throughout the project.

Mitigation Measure #3.3.1k: Large canopy trees shall be carefully selected and located to protect the buildings from energy consuming environmental conditions, and to shade 50 percent of paved areas in commercial parking lots within 15 years. This measure reduces emissions by reducing urban heat island effect, reducing ROG emissions from parked vehicles (shading reduces temperature, which reduces seepage), and creates a more walkable environment.

Mitigation Measure #3.3.1l: Prior to issuance of building permits, a landscape plan shall be prepared and submitted to the City of Fresno for review and approval pursuant to the City’s normal planning process that provide shade trees and foliage to reduce building and surface lot heating/cooling needs, and conform to landscape standards established by the City of Fresno. The landscape plan shall comply with the State mandated Water Efficient Landscape Ordinance and shall have the following components:

1. At least 50 percent of installed trees and shrubs shall be low-ozone forming potential (Low-OFP) and drought-tolerant species; and
2. The landscape plan shall be designed to shade 50 percent of paved surfaces within 10 years of buildout.

Mitigation Measure #3.3.1m: Prior to approval of the final site plan for the non-residential uses that would receive five or more truck deliveries per week, the project applicant shall demonstrate that the following anti-idling measures would be implemented:

- Provide available electricity hookups for trucks in the loading dock areas;
- Signs shall be posted in dock areas advising drivers that idling shall not occur for more than 3 minutes; and

- Telephone numbers of the building facilities manager and the California Air Resources Board shall be posted on signs at truck entrances to report idling violations.

Mitigation Measure #3.3.1n: Prior to issuance of grading permits for each development within the Westlake Development project site, the project applicant shall demonstrate compliance with all applicable requirements of San Joaquin Valley Air Pollution Control District, Rule 9510 via the submittal of a Rule 9510 Air Impact Assessment Application (AIA) to the City of Fresno for review and approval. The AIA shall achieve a 45 percent reduction in NO_x statewide average construction emissions and a 50 percent reduction in PM₁₀ statewide average construction exhaust emissions. The AIA shall also achieve a 33-percent reduction in NO_x and a 45-percent reduction in PM₁₀ over the first 10 years of operations through the use of onsite emissions reduction measures or through the payment of offsite mitigation fees to the SJVAPCD for purchase of emission reductions. The requirements of the approved AIA shall be incorporated into the proposed project.

Mitigation Measure #3.3.1o: Prior to issuance of grading permits, the project applicant will work with the San Joaquin Valley Air Pollution Control District to determine project emissions based on a more refined construction schedule and proposed construction equipment to determine if construction emissions exceed the Air District thresholds of significance after compliance with the Indirect Source Review Rule. If construction emissions exceed the Air District thresholds of significance, the applicant shall consult with the SJVAPCD to develop and implement a Feasible Implementation Plan with a goal of reducing construction emissions to below annual thresholds of 10 tons per year of ROG, 10 tons per year of NO_x, and 15 tons per year of PM₁₀. The Feasible Implementation Plan as identified above shall identify offsite mitigation measures proposed to be implemented by the applicant and agreed upon by the San Joaquin Valley Air Pollution Control District to be appropriate and effective to reduce emissions. Alternatively, the Feasible Implementation Plan shall identify the mitigation fee required to be paid by the applicant based on the amount of emission reductions needed to bring the project's construction impacts below the annual thresholds. The project applicant shall provide this funding prior to the start of construction to help facilitate emission offsets that are as real-time as possible. The San Joaquin Valley Air Pollution Control District will use the funds to purchase the required emission reductions through offsite mitigation strategies. The agreement requires the San Joaquin Valley Air Pollution Control District's approval prior to receiving final grading permits from the City of Fresno. The emissions reduction agreement must be implemented in addition to the required measure to reduce construction-related diesel equipment exhaust emissions listed in Mitigation Measure #3.3.1a. Development and implementation of the emissions reduction agreement shall be fully funded by the project applicant. Preference shall be given to offsite emission reduction projects that are located in or in close proximity to the City of Fresno. The applicant shall submit documentation to the City of Fresno verifying that this has been successfully completed.

Mitigation Measure #3.3.1p: Prior to issuance of building permits, the project applicant will work with the San Joaquin Valley Air Pollution Control District to determine if the project's operational emissions exceed the Air District thresholds of significance based on the incorporation of onsite mitigation measures and detailed project information. If the operational

emissions exceed the Air District's thresholds of significance, the applicant shall consult with the SJVAPCD to develop and implement a Feasible Implementation Plan with a goal of reducing operational emissions to below annual thresholds of 10 tons per year of ROG, 10 tons per year of NOx, and 15 tons per year of PM10. The Feasible Implementation Plan shall identify offsite mitigation measures proposed to be implemented by the applicant and agreed upon by the San Joaquin Valley Air Pollution Control District to be appropriate and effective to reduce emissions. Alternatively, the Feasible Implementation Plan shall identify the mitigation fee required to be paid by the applicant based on the amount of emission reductions needed to bring the project impacts below the annual thresholds. The San Joaquin Valley Air Pollution Control District will use the funds to purchase the required emission reductions through offsite mitigation strategies. Payment of offsite fees shall be prior to issuance of occupancy permits. The Feasible Implementation Plan requires the San Joaquin Valley Air Pollution Control District approval and verification of payment prior to receiving final occupancy permits from the City of Fresno.

Mitigation Measure #3.3.1q: The project applicant shall comply to the full extent appropriate with the air quality policies of 2025 City of Fresno General Plan Amendment A-09-02 and the pertinent mitigation measures of the associated 2025 Master Plan Mitigation Measures (see Table 3.3-11).

Effectiveness of Measures: With the implementation of the above measures, the project would still violate air quality standards and contribute substantially to existing or projected air quality violations. The impact would be *significant and unavoidable*.

Impact #3.3.2 – Violate any air quality standard or contribute substantially to an existing or projected air quality violation associated with carbon monoxide hotspots.

Impact Analysis

This impact will evaluate the proposed project's potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of the creation of carbon monoxide (CO) hot spots.

Threshold

CO hot spot thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecasted regional traffic do not exceed state or national ambient air quality standards for CO at any traffic intersection impacted by the project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project generated CO concentrations cause a localized violation of the state CO 1-hour standard of 20 ppm, state CO 8-hour standard of 9 ppm, national CO 1-hour standard of 35 ppm, or national CO 8-hour standard of 9 ppm.

Westlake Development Project

Although the air basin has demonstrated success in achieving CO standards, the GAMAQI states that localized CO concentrations still warrant concern and should be assessed to maintain

ambient air quality standards and safeguard against localized high concentrations of CO that may expose sensitive receptors but not be recorded at monitoring sites. High levels of CO are associated with traffic congestion, idling, or slow-moving vehicles. CO transport is limited as it disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthful levels, affecting sensitive receptors.

Annual emissions of CO during construction and operation were estimated by CalEEMod (see Impact 3.3.1 for details regarding the assumptions) and are presented in Table 3.3-8. The decrease in CO emissions is a result of decreases in vehicle and truck emissions resulting from the replacement of older, more polluting engines with newer engines that generate fewer emissions.

To estimate CO concentrations at impacted intersections, the fourth generation California Line Source Roadway Dispersion Model (CALINE4) is used. This is as recommended by the Transportation Project-Level Carbon Monoxide Protocol. The model estimates CO concentrations based on peak hour traffic volumes through the intersection. Therefore, the intersections with the greatest traffic volumes would have the greatest CO concentrations. Because the greatest CO concentration potential exists at the intersections, the roadway segments were not evaluated. If the intersections would not violate the CO standard then the roadway segments, which experience greater dispersion and decreased CO concentration levels, would also not violate the CO standard.

**Table 3.3-8
Carbon Monoxide Emissions (Tons/Year)**

Year	Phase	Carbon Monoxide Emissions (Tons/Year)
2014	Phase 1 - Construction	32.74
2015	Phase 1 - Construction	17.29
	Phase 1 - Construction	3.49
	Phase 1 – Operation (half-year) Mobile	26.14
	Area	2.47
2016	Energy	0.23
	Phase 2 - Construction	18.81
	Total	51.14
2017	Phase 1 – Operation Mobile	47.60
	Area	4.92
	Energy	0.45
	Phase 2 - Construction	15.21
	Total	68.18
2018	Phase 1 – Operation Mobile	43.62
	Area	4.91
	Energy	0.45

Year	Phase	Carbon Monoxide Emissions (Tons/Year)
	Phase 2 - Construction	2.93
	Phase 2 – Operation (half-year)	
	Mobile	45.63
	Area	3.70
	Energy	0.30
	Phase 3 - Construction	17.35
	Total	118.89
2019	Phase 1 and 2- Operation	
	Mobile	124.52
	Area	52.80
	Energy	1.04
	Phase 3 - Construction	14.58
	Total	192.94
2020	Phase 1 and 2- Operation	
	Mobile	116.04
	Area	12.26
	Energy	1.04
	Phase 3 - Construction	2.81
	Phase 3 – Operation (half-year)	
	Mobile	39.20
	Area	3.68
	Energy	0.30
	Total	175.33
2021	Phase 1 – 3 –Operation	
	Mobile	182.66
	Area	19.59
	Energy	1.78
	Total	204.03
2025	Phases 1 -3 – Operation	
	Mobile	148.88
	Area	19.53
	Energy	1.78
	Total	170.19
2030	Phases 1 -3 – Operation	
	Mobile	123.18
	Area	19.49
	Energy	1.78
	Total	144.45

Source: CalEEMod, Appendix C

The SJVAPCD has established that if either of the criteria below can be associated with any intersection affected by the project, then the project needs to conduct a CO hotspot analysis to determine significance: (1) 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 (2) a traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity.

Using the CALINE4 model, potential CO hot spots were analyzed at the intersections listed in Table 3.3-9. These were the intersections with the highest traffic volumes for the different planning scenarios.

There are several inputs to the CALINE4 model. One input is the traffic volumes, which is derived from the project-specific traffic report. The traffic volumes with the project were used for the existing (2012) plus project traffic conditions, the existing (2012) plus Phase 1 project traffic conditions, 2016 plus project traffic conditions, 2021 plus project traffic conditions, and 2030 plus project traffic conditions. The analysis was conducted for the unmitigated traffic intersections even though the projected mitigated traffic levels show that the intersections would operate at acceptable LOS. The unmitigated analysis is conducted because there is uncertainty as to the timing and feasibility of necessary intersection improvements (refer to the Transportation/Traffic section of this Draft EIR for more details).

As shown in Table 3.3-9, the estimated 1-hour and 8-hour average CO concentrations at buildout in combination with background concentrations are below the state and national ambient air quality standards. No CO hot spots are anticipated because of traffic-generated emissions by the project in combination with other anticipated development in the area. Therefore, the mobile emissions of CO from the project are not anticipated to contribute substantially to an existing or projected air quality violation of CO.

**Table 3.3-9
Carbon Monoxide Concentrations at Intersections**

Year/Scenario	Intersection	CO Concentration (ppm) 1 Hour ¹	CO Concentration (ppm) 8 Hour ²	Significant Impact? ³
2012 Existing Plus Project Buildout	Grantland Ave/ Ashlan Ave	3.6	2.5	No
2012 Existing Plus Phase 1 Project Traffic	Grantland Ave/ Shaw Ave	3.1	2.1	No
2016 Plus Project Buildout	Cornelia Ave/ Ashlan Ave	3.3	2.3	No
2021 Plus Project Buildout	Veterans Blvd/ Bryan Ave	4.4	3.1	No
2030 Plus Project Buildout	Veterans Blvd/ Bryan Ave	3.1	2.1	No

Notes:

1. CALINE4 output (see Appendix C for model output) plus the 1 hour background concentration of 2.26 ppm (from Table 3.3-2).
2. The 8-hour project increment was calculated by multiplying the 1-hour CALINE4 output by 0.7 (persistence factor), then adding the 8 hour background concentration of 1.538 ppm (from Table 3.3-4).
3. Comparison of the 1-hour concentration to the state standard of 20 ppm and the 8-hour concentration to the state /national standard of 9 ppm.

Source: Quad Knopf, 2012

Conclusion: The impact would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.3.3 – Conflict with or obstruct implementation of any applicable air quality plan.

This impact will evaluate the proposed project's potential to conflict with or obstruct implementation of the applicable air quality plan.

Because of the region's non-attainment status for ozone, PM2.5, and PM10, if the project generated significant emissions of either of the ozone precursor pollutants (i.e., ROG and NOx), PM10, or PM2.5 would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed in Impact 3.3.1, predicted construction and operational emissions would exceed the SJVAPCD significance thresholds for ROG, NOx, and PM10. As a result, the project may conflict with emissions inventories contained in regional air quality attainment plans and result in a significant contribution to the region's air quality non-attainment status.

The SJVAPCD adopted the 2003 PM10 Plan on June 19, 2003 and first amended it on December 15, 2003 to comply with federal Clean Air Act requirements. The EPA approved the amended 2003 PM10 Plan effective June 25, 2004. The Air Basin is currently in attainment of the national standards for PM10.

The SJVAPCD Governing Board adopted the 2008 PM2.5 Plan following a public hearing on April 30, 2008. This plan will assure that the Valley will attain all the PM2.5 standards - the 1997 federal standards, the 2006 federal standards, and the state standard - as soon as possible. The CARB submitted the 2008 PM2.5 Plan to the EPA on June 30, 2008. The 2008 PM2.5 Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Valley into attainment of the 1997 national standards for PM2.5. The EPA has identified NOx and sulfur dioxide as precursors that must be addressed in air quality plans for the 1997 PM2.5 standards. The 2008 PM2.5 Plan is a continuation of the SJVAPCD's strategy to improve the air quality in the San Joaquin Valley.

As an extreme nonattainment area for the 1-hour ozone national standard, the SJVAPCD adopted the Extreme Ozone Attainment Demonstration Plan in 2004. On March 8, 2010, the EPA approved the Plan for 1-hour ozone. Although effective June 15, 2005, the EPA revoked the 1-hour standard; the control requirements remain in effect to ensure progress toward meeting the new more stringent 8-hour ozone standard that has replaced the 1-hour standard. The Plan contains commitments to reduce a precursor of ozone, NOx, including NOx reductions from indirect sources.

The 2007 Ozone Plan contains measures to reduce ozone and particulate matter precursor emissions to bring the Air Basin into attainment with the federal 8-hour ozone standard. The

2007 Ozone Plan calls for a 75-percent reduction of NOx and 25-percent reduction of ROG. The SJVAPCD Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The plan, with innovative measures and a “dual path” strategy, assures expeditious attainment of the federal 8-hour ozone standard for all Air Basin residents. The CARB approved the plan on June 14, 2007.

In December 2005, the SJVAPCD adopted the ISR and the accompanying administrative fee rule (Rule 3180). The ISR requires certain development projects within the San Joaquin Valley Air Basin to reduce emissions by specified amounts either through on-site measures or through the payment of air quality impact fees to the SJVAPCD to obtain emission reductions off-site. The emission reduction requirements are designed to reduce PM10 and NOx by amounts needed to meet the commitments of the 2003 PM10 Plan necessary to achieve attainment on schedule. Emission reduction projects envisioned by the ISR include retrofitting heavy-duty engines, replacing agricultural machinery and pumps, paving unpaved roads and road shoulders, trading out combustion-based lawn and agricultural equipment for electrical and other equipment, as well as a host of other projects that result in quantifiable emission reductions of PM10 and NOx. Compliance with Rule 9510 is incorporated into Mitigation Measure 3.31n.

Compliance with the ISR, however, does not achieve full and complete mitigation of a project’s air quality impacts on nonattainment pollutants. This is because the rule requires projects to reduce their construction emissions by 20 percent for NOx and 45 percent for PM10 and operational emissions by 33 percent for NOx and 50 percent for PM10. Mitigation Measures #3.3.1o and #3.3.1p would require the project applicant to consult with the San Joaquin Valley Air Pollution Control District to develop and implement a Feasible Implementation Plan with the goal of reducing operational emissions to below annual thresholds of ROG, NOx, and PM10.

Conflicts with the City of Fresno General Plan Air Quality Element

The City of Fresno General Plan Air Quality Element includes several policies with the objective of improving air quality and assisting with the attainment or maintenance of air quality standards. Table 3.3-10 analyzes the project’s consistency with applicable air quality related policies of the 2025 General Plan.

**Table 3.3-10
Fresno Air Quality Element Policies**

Chapter/Element	Policy No.	Policy Text	Consistency Determination
Chapter 4-G. Resource Conservation Element – Air Quality Element	Policy G-1A-a	Support and encourage regional, state and federal programs and actions for the improvement of air quality.	Consistent. The proposed project would mitigate its air quality impacts, although not to less than significant and assist in the implementation of the Air District air quality attainment plans.
	Policy G1A-c	Preserve reasonable compatibility between	

Chapter/Element	Policy No.	Policy Text	Consistency Determination
		Federal/State Air Quality Attainment and Maintenance Plans and the Fresno General Plan and its resulting urban development through the following implementation measures:	
		(1) Develop and incorporate air quality maintenance considerations in the preparation and review of land use plans and development proposals.	Consistent. The City has conducted an air quality analysis of the project's potential air quality impacts and has incorporated mitigation measures to reduce the impacts.
		(2) Maintain internal consistency within the general plan between policies and programs for air quality resource conservation and the policies and programs of other general plan elements.	Not applicable. This is a City function and is not applicable to project-specific development.
		(3) Utilize appropriate computer models (software recommended by San Joaquin Valley Air Pollution Control District or other air quality agencies) to evaluate air quality impacts of projects that require environmental review by the City of Fresno.	Consistent. The air quality modeling for the project utilized CalEEMod, which is the recommended Air District model for evaluating project impacts.
		(4) Information regarding land use plans, development projects, and amendments to development regulations will continue to be routed to the San Joaquin Valley Air Pollution Control District for that agency's review and comment on potential air quality impacts.	Consistent. The Air District will be able to review and comment on the Draft EIR and will work with the Applicant to develop a Feasible Implementation Plan.

Chapter/Element	Policy No.	Policy Text	Consistency Determination
	Policy G-1A-d	Continue to implement broad scale general plan strategies to decrease the generation of air pollution through the reduction of vehicle miles traveled, excessive vehicle traffic congestion and excessive engine idling by implementation of public transportation and other alternatives to private automobile travel.	Consistent. The project will incorporate pedestrian and bicycle infrastructure as outlined in Mitigation Measure #3.3.1j; further, it incorporates neighborhood and community commercial facilities to reduce vehicle travel.
	Policy G-1A-e	Maintain the following general plan land use policies and supportive city regulations to implement air quality improvement through the planning process:	
		(2) contiguous urban expansion through implementation of the city's Urban Growth Management program and by agreements with the county that control or preclude urban development outside incorporated boundaries.	Consistent. The project is within the City's sphere of influence and will be annexed to the City. The project will pay its Urban Growth Management fees in accordance with City policies.
		(6) subdivision and other residential development designs which facilitate pedestrian access to bus stops and other transportation routes.	Consistent. The project will incorporate pedestrian and bicycle infrastructure as outlined in Mitigation Measure #3.3.1j.
		(7) maintain and improve transit-related requirements for development, including on-site bus parking and loading lanes with passenger and driver facilities at major shopping centers and other high-traffic locations.	Not applicable. The proposed project would not include a major shopping center. The proposed commercial uses would be neighborhood and community uses that would serve the onsite population of the development.

Chapter/Element	Policy No.	Policy Text	Consistency Determination
		(10) complete the city's network of alternative bicycle and pedestrian transportation routes, and allow for implementation of new forms of non-motorized transportation such as neighborhood electric vehicles, via the Master Trail system's pedestrian and bikeway components, bicycle lanes on streets, and ancillary safety and convenience facilities (such as neighborhood electric vehicle lanes, where appropriate) to encourage use of these alternative modes of transport.	Consistent. The project will incorporate pedestrian and bicycle infrastructure as outlined in Mitigation Measure #3.3.1j.
		(11) provide for installation and maintenance of additional landscaping which helps maintain and improve air quality, by continuing to increase the extent of landscaped areas in the city using street trees, parking lot shading, median islands, and landscape buffers.	Consistent. The proposed project includes landscaping and shade canopy requirements to reduce the urban heat island as outlined in Mitigation Measures #3.3.1k and ##.3.1l.
	Policy G-1A-f	Maintain the city's construction standards that prohibit coal-fired heaters and installation of new wood-burning heaters and fireplaces.	Consistent. This measure is implemented on a city-wide basis and is a requirement of this new development.
	Policy G-1A-i	Encourage development proponents to offset or mitigate project air pollution emissions by buying and removing older, higher-polluting vehicles from service.	Consistent. The proposed project will offset its air quality impacts through compliance with Rule 9510 and implementation of a Voluntary Emission Reduction Agreement, which may target older, higher-polluting vehicles for removal from service.

Source of Policies: City of Fresno General Plan, 2002 amended 2009
 Source of Consistency Determination: Quad Knopf, Inc.

In certifying the Master EIR (MEIR) No.10130 for the 2025 Fresno General Plan, the City of Fresno adopted mitigation measures that would be applied on both a city-wide and project-level basis through the implementation of the General Plan. The following analysis evaluates the project’s consistency with applicable mitigation measures from the MEIR, which are made mitigation measures in this EIR at Mitigation Measure #3.3.1q.

Conclusion: Impacts would be *potentially significant*.

Mitigation Measures: Implement Mitigation Measures #3.3.1a through #3.3.1q.

Effectiveness of Mitigation: With the implementation of the above mitigation measures, the impact remains *significant*.

**Table 3.3-11
 Master EIR Mitigation Measures Consistency**

2025 General Plan Master EIR Mitigation Measure Number	Mitigation Measure Text	Consistency Determination
Mitigation Measure B-6	New development projects and major street construction projects shall be designed with consideration and implementation of appropriate features (considering safety, convenience and cost-effectiveness) to encourage walking, bicycling, and public transportation as alternative modes to the automobile.	Consistent. The project will incorporate pedestrian and bicycle infrastructure as outlined in Mitigation Measure #3.3.1j.
Mitigation Measure B-7	Bicycle and pedestrian travel and use of public transportation shall be facilitated as alternative modes of transportation including, but not limited to, provision of bicycle, pedestrian and public transportation facilities and improvements to connect residential areas with public facilities, shopping and employment. Adequate rights-of-way for bikeways, preferably as bicycle lanes, shall be provided on all new major streets and shall be considered when designing improvements for existing major streets.	Consistent. The project will incorporate pedestrian and bicycle infrastructure as outlined in Mitigation Measure #3.3.1j.
Mitigation Measure C-1	In cooperation with other jurisdictions and agencies in the	

2025 General Plan Master EIR Mitigation Measure Number	Mitigation Measure Text	Consistency Determination
Mitigation Measure C-2	<p>San Joaquin Valley Air Basin, the City shall take the following necessary actions to achieve and maintain compliance with state and federal air quality standards and programs.</p> <p>a. Develop and incorporate air quality maintenance considerations into the preparation and review of land use plans and development proposals.</p> <p>b. Maintain internal consistency within the General Plan between policies and programs for air quality resource conservation and the policies and programs of other General Plan elements.</p> <p>c. City departments preparing environmental review documents shall use computer models (software approved by local and state air quality and congestion management agencies) to estimate air pollution impacts of development entitlements, land use plans and amendments to land use regulations.</p> <p>d. Adopted state and SJVAPCD protocols, standards, and thresholds of significance for greenhouse gas emissions shall be utilized in assessing and approving proposed development projects.</p> <p>e. Continue to route information regarding land use plans, development projects, and amendments to development regulations to the SJVAPCD for that agency’s review and comment on potential air quality impacts.</p>	<p>Consistent. The City has conducted an air quality analysis of the project’s potential air quality impacts and has incorporated mitigation measures to reduce the impact.</p> <p>Not applicable. This is a City function and is not applicable to project-specific development.</p> <p>Consistent. The air quality modeling for the project utilized CalEEMod, which is the recommended Air District model for evaluating project impacts.</p> <p>Consistent. The proposed project utilized the Air District thresholds and guidance outlined in the Guide for Assessing and Mitigating Air Quality Impacts, published by the Air District in 2002.</p> <p>Consistent. The Air District will be able to review and comment on the Draft EIR.</p>
	<p>For development projects potentially meeting SJVAPCD thresholds of significance and/or thresholds of applicability for the Indirect Source Review Rule (Rule 9510) in their unmitigated</p>	<p>Consistent. The project has incorporated Mitigation Measure #3.31n, which requires the submittal of an Air Impact Assessment Application for Rule 9510 compliance for each</p>

2025 General Plan Master EIR Mitigation Measure Number	Mitigation Measure Text	Consistency Determination
	condition, project applicants shall complete the SJVAPCD Indirect Source Review Application prior to approval of the development project. Mitigation measures incorporated into the ISR analysis shall be incorporated into the project as conditions of approval and/or mitigation measures, as may be appropriate.	development within the Westlake Development project site.

Source of Measures: City of Fresno Master EIR, 2002

Source of Consistency Determination: Quad Knopf, Inc.

Impact #3.3.4 – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

The Air Basin is in nonattainment for ozone, PM10, and PM2.5, which are discussed individually. Each pollutant is addressed individually in the following analysis.

Ozone

As discussed in Impact 3.3.1, project emissions emitted within the Air Basin would exceed the significance thresholds for ROG and NOx. Therefore, project emissions could cumulatively combine with other sources in the Air Basin and could cause a future violation of the ozone standards. This is a potentially significant impact.

The project has incorporated mitigation measures #3.3.1a through #3.3.1q that would reduce the project’s emissions. Specifically, Mitigation Measures #3.3.1o and #3.3.1p would require the applicant to enter into a voluntary agreement with the Air District to reduce project emissions of ROG and NOx to less than the thresholds of significance. According to the Guide for Assessing and Mitigating Air Quality Impacts, the Air District based the ozone precursor thresholds’ “significant contribution” definition on the California Clean Air Act’s offset requirements for ROG and NOx. The ROG and NOx offset thresholds are described in SJVAPCD Rule 2201 (New and Modified Stationary Source Review). Accordingly, if the project reduces its emissions below the thresholds of significance it would not result in cumulatively considerable net increase of ROG and NOx and would therefore have a less than significant impact. Such reduction, however, assumes the ability to fully mitigated impacts through the Feasible Implementation Plan. The impact must therefore be considered significant.

Particulate Matter

As discussed in Impact 3.3.1, emissions during construction and operation would exceed the PM10 significance threshold, primarily due to paved road dust from project related motor vehicles and trucks traveling throughout the State. A smaller proportion of these emissions is

from the motor vehicle and truck exhaust. Much of the road dust would settle out near the road. However, some of it could extend up into the air, cumulatively combine with other sources, and cause a violation of the PM10 ambient air quality standards. This is a potentially significant impact.

The project has incorporated mitigation measures #3.3.1a through #3.3.1q that would reduce the project's emissions. Specifically, Mitigation Measures #3.3.1o and #3.3.1p would require the applicant to enter into a voluntary agreement with the Air District to reduce project emissions of PM10 to less than the thresholds of significance. If the project reduces its emissions below the thresholds of significance it would not result in cumulatively considerable net increase of PM10 and would therefore have a less than significant impact. Such reduction, however, assumes the ability to fully mitigated impacts through the Feasible Implementation Plan. The impact must therefore be considered significant.

Air Quality Plan

Section 15130(b) of the CEQA Guidelines states the following:

The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. This analysis considers the current CEQA Guidelines, which includes the recent amendments approved by the Natural Resources Agency and effective on March 18, 2010. Under the amended CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The air quality attainment plans describe and evaluate the future projected emissions sources in the Air Basin and sets forth a strategy to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. Therefore, the plans are relevant plans for a CEQA cumulative impacts analysis. As discussed in Impact 3.3.3, the project is not consistent with the air quality attainment plans. Therefore, this is a potentially significant impact. However, with the incorporation of Mitigation Measures #3.3.1a through #3.3.1q, the project would be consistent with the air quality attainment plans. Such reduction, however, assumes the ability to fully mitigated impacts through the Feasible Implementation Plan. The impact must therefore be considered significant.

Conclusion: Impacts would be *potentially significant*.

Mitigation Measures: Implement Mitigation Measures #3.3.1a through #3.3.1q.

Effectiveness of Mitigation: Despite the implementation of the above mitigation measures, the impact would be *significant and unavoidable*.

Impact #3.3.5 – Expose sensitive receptors to substantial pollutant concentrations.

Thresholds

The SJVAPCD has adopted the following significance thresholds for Toxic Air Contaminants:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million; or
- Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.

Impact Analysis

This impact will evaluate the proposed project's potential to expose sensitive receptors to substantial pollutant concentrations. The three air quality issues of concern as they relate to sensitive receptors are toxic air contaminants, valley fever, and naturally occurring asbestos. Each issue is discussed separately.

CONSTRUCTION: TOXIC AIR CONTAMINANTS

Health-related risks associated with diesel exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. The estimation of cancer risk associated with exposure to toxic air contaminants is typically calculated based on a 70-year period of exposure. The use of diesel-powered construction equipment for the project, however, would be temporary (approximately 7 years in duration) and episodic and would occur over a relatively large area. For this reason, diesel-exhaust generated by construction, in and of itself, would not be expected to create conditions where the probability of contracting cancer over a 70-year lifetime of exposure is greater than 10 in 1 million for nearby receptors.

OPERATION: TOXIC AIR CONTAMINANTS

The CARB Air Quality and Land Use Handbook contains recommendations that will “help keep California’s children and other vulnerable populations out of harm’s way with respect to nearby sources of air pollution” (CARB 2005), including recommendations for distances between sensitive receptors and certain land uses. These recommendations are assessed as follows.

- **Heavily traveled roads.** CARB recommends avoiding new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. Epidemiological studies indicate that the distance from the roadway and truck traffic densities were key factors in the correlation of health effects, particularly in children. Roads assessed in the traffic study do not exceed a volume of 100,000 vehicles per day.

- **Distribution centers.** ARB also recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center. There are no distribution centers within the vicinity of the project site.
- **Fueling stations.** ARB recommends avoiding new sensitive land uses within 300 feet of a large fueling station (a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.
- **Dry cleaning operations.** ARB recommends avoiding siting new sensitive land uses within 300 feet of any dry cleaning operation that uses perchloroethylene. For operations with two or more machines, ARB recommends a buffer of 500 feet. For operations with three or more machines, ARB recommends consultation with the local air district.

The project would include commercial uses (approximately 313,414 square feet) that may have service and delivery vehicles that generate diesel particulate matter (DPM) or may generate polycyclic aromatic hydrocarbons (PAHs), both toxic air contaminants. It is unknown what type of commercial uses will ultimately reside within the project site; however, in order to provide an estimate of potential impacts the following assumptions were included in a health risk screening. The SJVAPCD has a screening tool to determine if project impacts exceed the SJVAPCD threshold of 10 in one million probability of contracting cancer for the Maximally Exposed Individual (MEI). The screening tool requires information on the anticipated number of heavy-heavy duty diesel trucks (HHDT) and Truck Refrigeration Units (TRUs) servicing the proposed land uses and the estimated amount of gasoline dispensed by the facility. In order to provide an estimate, the following assumptions were included in the modeling:

- 5 HHDT trips per day, 5 days per week, 52 weeks per year;
- 4 TRU trips per day, 5 days per week, 52 weeks per year;
- 2 Restaurants; and
- Idling time of five minutes (The CARB's Airborne Toxic Control Measure (ATCM) limits diesel truck idling to five minutes).

For comparative purposes, a national large big box retailer has on average two to three TRUs per day and five to six truck trips per day for projects of 200,000 square feet of regional retail uses. The proposed project would include neighborhood and community commercial uses and would be expected to have lower truck trips per day (Trip Generation, Fourth Edition, Institute of Transportation Engineers).

Table 3.3-12 provides an estimate of the cancer risks to the MEI, who are the school and residential receptors located east and south of the commercial designated areas of the Master Plan. As shown in the table, the proposed project would not exceed the SJVAPCD threshold of 10 in one million; therefore, the project would not expose sensitive receptors to substantial concentrations of DPM and TACs. Impacts would be less than significant.

**Table 3.3-12
Cancer Risks During Operation**

Project Year	Locations	Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)
2016	Maximum Exposed Residential Receptor	2.1	10

Notes: See output file in Appendix C. Project impacts were analyzed using 2016 emission factors to provide a worst-case scenario of potential impacts.

Source: Quad Knopf, 2012

Conclusion: Impacts would be *less than significant*.

Mitigation Measures: No mitigation is necessary.

Impact #3.3.6 – Exposure of a substantial number of people to sources of objectionable odors.

This impact will evaluate the proposed project’s potential to create objectionable odors affecting a substantial number of people.

Threshold

If the proposed project were to result in a sensitive odor receptor being located in the vicinity of an undesirable odor generator, the impact would be considered significant. The SJVAPCD regulates odor sources through its nuisance rule, Rule 4102, but has no quantitative standards for odors. The SJVAPCD presents a list of project screening trigger levels for potential odor sources in its GAMAQI, which is displayed in Table 3.3-13. If the project were to result in sensitive receptors being located closer to an odor generator in the list in Table 3.3-13 than the recommended distances, a more detailed analysis including a review of SJVAPCD odor complaint records is recommended.

**Table 3.3-13
Screening Levels for Potential Odor Sources**

Odor Generator	Distance (Miles)
Wastewater Treatment Facilities	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations (e.g., auto body shop)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Source: San Joaquin Valley Air Pollution Control District, 2002

Significant odor problems are defined as:

- More than one confirmed complaint per year averaged over a three year period; or
- Three unconfirmed complaints per year averaged over a three-year period.

Odors from the Project

The project would allow for the development of residential and commercial uses within the 460 acre project area. These land uses are not considered sources of objectionable odors. This impact would be less than significant.

During construction, the various diesel-powered vehicles and equipment in use onsite would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the project's site boundaries. The potential for diesel odor impacts would be less than significant.

Odors from Surrounding Land Uses

The project site is located adjacent to the Lamanuzzi & Pantaleo fruit processing plant. Screening Levels distances of a food processing producing facility as presented in Table 3.3-13 do not necessarily fully apply to this type of facility. Accordingly, additionally analysis was conducted to determine potential odor impacts.

A records request was submitted to the San Joaquin Valley Air Pollution Control to determine if there had been odor complaints filed against the Lamanuzzi & Pantaleo facility in the years 2009 through 2012. According to the Air District's records there have been no complaints.

Conclusion: The impact will be *less than significant*.

Mitigation Measures: No mitigation measures are required.

3.4 Biological Resources

INTRODUCTION

The Initial Study found that implementation of the project, pending the determination of the reconnaissance level biological survey, could have an impact on: species identified as candidate, sensitive, or special status in local, regional, State or Federal policies or regulations; riparian habitat and/or sensitive natural communities; federally protected wetlands; and the movement of resident or migratory wildlife species or obstruction of wildlife corridors. The Initial Study found that the project would have a less than significant impact relating to conflicts with local policies or ordinances protecting biological resources, nor would it create any conflicts with any Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, this EIR section will not address those two issues. A biological reconnaissance survey was conducted on the project site in February 2008 and again in December 2011 (Appendix D of this EIR), which was used to describe the project setting in this section and was used for the evaluation of project impacts to biological resources.

3.4.1 REGULATORY AND PHYSICAL SETTING

Regulatory

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) defines an *endangered species* as “any species or subspecies that is in danger of extinction throughout all or a significant portion of its range.” A *threatened species* is defined as “any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”

Once a species is listed, it is fully protected from take unless a take permit is issued by the USFWS. *Take* is defined as “the killing, capturing, trapping, or harassing of a species.” Proposed endangered or threatened species are those species for which a proposed regulation but not a final rule has been published in the Federal Register.

Migratory Bird Treaty Act

The MBTA is an international treaty among the United States, Canada, Mexico, Japan, and Russia for the conservation and management of bird species that may migrate through more than one country. The MBTA (50 CFR Section 10) is enforced in the United States by the USFWS and covers 972 bird species. According to the provisions of the MBTA, it is unlawful to pursue, hunt, take, capture, or kill or attempt to do the same to any species covered by the MBTA, including their nests, eggs, or young. Any disturbance that causes nest abandonment or loss of reproductive effort is considered a take and is potentially punishable by fines or imprisonment. Birds covered under this act include all waterfowl, shorebirds, gulls, wading birds, raptors, owls, hummingbirds, warblers, flycatchers, and most perching bird species.

Clean Water Act – Section 404

The goal of Section 404 of the Clean Water Act (1972) is to maintain, restore, and enhance the physical, chemical, and biological integrity of the nation’s waters. Under Section 404 of the Clean Water Act, the US Army Corps of Engineers (USACE) regulates discharges of dredged and fill materials into “waters of the United States” (jurisdictional waters). Waters of the US include a wide variety of waterbodies including waters used for interstate commerce and tributaries to these waters, intrastate lakes, rivers, streams, sandflats, mudflats, playa lakes, sloughs, wet meadows, wetlands, natural ponds, and wetlands adjacent to any water of the US (33 CFR Part 328, Section 328.3). Impacts to jurisdictional waters, including wetlands (a special category of water of the US), require a permit from USACE and typically require mitigation. Impacts to wetlands often require compensation in kind to ensure no net loss of wetland function and value.

Clean Water Act – Section 401

Section 401 of the Clean Water Act requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To obtain the water quality certification, the RWQCB must indicate that the proposed discharge would be consistent with the standards set forth by the state.

STATE

California Endangered Species Act

Section 2080 of the California Endangered Species Act (CESA) prohibits the take of any state-listed threatened and endangered species. CESA defines *take* as “any action or attempt to hunt, pursue, catch, capture, or kill any listed species.” If the proposed project results in a take of a listed species, a permit pursuant to Section 2080 of CESA is required from the CDFW.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) protects endangered and rare species, subspecies, and varieties of wild plants native to California. A “native plant” is defined as a plant growing in a wild, uncultivated state which is normally found native to the vegetation of California. The CNPPA gave the California Fish and Wildlife Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants.

California Environmental Quality Act

It is the policy of the California Environmental Quality Act (CEQA) to regulate projects to prevent environmental damage. The mechanism to ensure protection is the preparation and review of an Environmental Impact Report (EIR), which is used to disclose environmental

information relevant to the project. Various responsible and trustee agencies provide review, comments, and input into the decision making process.

Under the CEQA guidelines, Appendix G, significant impacts to sensitive natural communities and special-status plant and wildlife species, including California Native Plant Society (CNPS) List 1 and 2 species and species of special concern must be fully considered. Avoidance measures or mitigation to reduce impacts to less than significant must be implemented. This report is developed specifically to provide the required biological information necessary to produce an Environmental Impact Report for the project.

Birds of Prey

Under the California Fish and Wildlife Code (Section 3503), all birds of prey (orders Falconiformes and Strigiformes) are protected. The code states that it is unlawful to take, possess, or destroy the nest or eggs of any such bird except in accordance with the Code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take.

Streambed Alteration Agreements

The California Department of Fish and Wildlife (CDFW) is authorized under State Fish and Wildlife Code Sections 1600-1607 to develop mitigation measures and enter into Streambed Alteration Agreements with applicants (both public and private) that propose a project that would divert or obstruct the natural flow of or change the bed, channel, or bank of any lake or stream in which there is a fish or wildlife resource. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources.

LOCAL

City of Fresno General Plan

The following City of Fresno General Plan policies are designed to protect biological resources in, and around, the City:

Resource Conservation Element

G-12-d Policy: Projects that could adversely affect rare, threatened, or endangered wildlife and vegetative species (or may have impacts on wildlife, fish, and vegetation restoration programs) may be approved only when findings are made by the California Department of Fish and Wildlife (and the U.S. Fish and Wildlife Service, as appropriate) that adequate mitigation measures are incorporated in the project's design.

G-12-e Policy: Open Space land use designations, appropriate zoning, setbacks, and conservation easements will be used to preserve areas identified as sensitive or critical habitat for rare, threatened, or endangered vegetation and wildlife species, with particular attention paid to the North and

Southeast Growth Areas and to the preparation of the required community and/or specific plans for these expansion areas of the proposed 2025 Fresno General Plan.

G-12-j Policy: Where appropriate in flood zones along water courses and flood detention basins, pursue development of conjunctive habitat and recreational trail uses in flood control and drainage projects

Physical Setting (Existing)

The proposed project site is located in the Central California Valley ecoregion. This ecoregion is characterized by flat, intensively farmed plains with long, hot dry summers and cool, wet winters. The area averages approximately 14-20 inches of precipitation per year. The Central California Valley ecoregion includes the Sacramento Valley to the north and the San Joaquin Valley to the south and ranges between the Sierra Nevada foothills to the east and the Coastal Range foothills to the west. Much of the region is actively farmed, and about three fourths of the farmed land is irrigated. The potential natural vegetation within this region is comprised of needlegrasses, native oaks, and vernal pools and wetland communities, although most of this vegetation has been replaced by exotic grasses or converted to agriculture, grazing land, or development projects.

The proposed Westlake Development Project is on a 460-acre site located west of State Route 99. It is bounded by West Gettysberg Avenue, West Shields Avenue, North Garfield Avenue, and North Grantland Avenue (reference Figures 2-1 and 2-2). The project site is located in an unincorporated portion of Fresno County adjacent to the City of Fresno, within Sections 17 and 20, Township 13 S, Range 19 E, Mount Diablo Base and Meridian. Historically, vegetation communities in the vicinity of the proposed project site likely consisted of a mosaic of Oak Woodland or Oak Savannah, Great Valley Mixed Riparian, Freshwater Marsh or Alkali Sink, and Valley Grassland. The vast majority of these vegetative communities have been eliminated from the San Joaquin Valley by conversion to agricultural and urban uses. Lands in the vicinity of the proposed project site are currently dominated by residential, commercial and rural agriculture uses.

The site is currently fallow or recently disked farmland, with two Fresno Irrigation District (FID) irrigation canals running in a northeast-southwest direction, that have been periodically used for seasonal crop production in the past. The site contained an orchard remnant as recently as 2005. Land uses surrounding the site include agricultural uses to the west, residences to the north, a scattering of rural residences to the south and east, and commercial agricultural activities adjacent to the eastern boundary. Sheep were observed grazing on the site when Quad Knopf biologists surveyed the proposed project site in February 2008. Quad Knopf biologists also re-visited the site in May 2010 and verified that no changes were required to the February 2008 biological report. A third reconnaissance level survey was conducted in December 2011.

SITE CHARACTERIZATION

The project site sits on 460 acres of unimproved land. The site is currently fallow farmland, but has been in agricultural production for decades with a mixture of orchard and row crops and was

dry farmed until 2007. The site is crossed by two irrigation canals—the Thornton Ditch, which crosses the extreme northwestern corner of the site, and the Silva Ditch, which enters the site at its northeastern corner, traverses the property in a southerly direction and exits the site at the central western boundary. The 26 acre area for the future ponding basin (located at the southwest corner of Shields and Grantland) consists of similar land used for agricultural purposes.

Since agricultural production on the site ceased, the site has reverted to a ruderal (weedy) type habitat dominated by non-native grasses and forbs. The most dominant plant on the site is burclover (*Medicago* spp.), which forms a virtual monoculture throughout the property. There are four trees on the site—two eucalyptus (*Eucalyptus* spp.) and two Fremont’s cottonwood (*Populus fremontii*) trees located in the northwest corner along the Thornton Ditch.

Wildlife (or diagnostic signs of wildlife) that were observed on or near the site included red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), and California ground squirrel (*Spermophilus beecheyi*).

The project site may provide seasonal foraging and nesting habitat for a variety of migratory birds. Small mammal burrows were scattered along the edges of the access roads and canal banks. Pocket gophers (*Thomomys bottae*) were observed at some of these burrows, but the house mouse (*Mus musculus*) and deer mouse (*Peromyscus maniculatus*) likely utilize them as well. California ground squirrel (*Spermophilus beecheyi*) burrows were also observed in the recently disked fields. Plant and wildlife species observed during the field surveys are listed below in Table 3.4-1.

SPECIES STATUS AND ANALYSIS

Prior to conducting the field survey, a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (2008a, 2008b) was conducted for the Herndon, Fresno South, Fresno North, Kearney Park, Biola, Madera, Kerman, Lanes Bridge, and Gregg, California United States Geologic Survey (USGS) 7.5-minute topographic quadrangles. A query of the California Native Plant Society’s Electronic Inventory (CNPS) (2008) was conducted for the same quadrangles to provide information on additional plant species of concern that may occur in the project area and surrounding vicinity. A species list was obtained from the U.S. Fish and Wildlife Service (USFWS) website for the same quadrangles to provide information on additional special-status species that have the potential to occur in the vicinity of the proposed project. Based on these searches and site conditions existing on the proposed project property, 37 species (13 plant and 24 animal species) were evaluated for their potential to occur on the site (Table 3.4-2 and Figure 3.4-1).

Table 3.4-1
Plant and Animal Species Observed During the Field Surveys of
the Westlake Development Project

Scientific Name	Common Name	On/Adjacent to the Project Site
<u>Plants</u>		
<i>Amsinckia spp.</i>	Fiddleneck	On site
<i>Brassica spp.</i>	Mustard	On site
<i>Calandrinia cilata</i>	Redmaids	On site
<i>Capsella bursa-pastoris</i>	Shepard's purse	On site
<i>Claytonia perfoliata</i>	Miner's lettuce	On site
<i>Conyza coulteri</i>	Coulter's conyza	On site
<i>Cyperus spp.</i>	Sedge	On site
<i>Digitaria sanguinalis</i>	Large crab grass	On site
<i>Erodium sp.</i>	Filaree	On site
<i>Eucalyptus spp.</i>	Eucalyptus	On site
<i>Foeniculum vulgare</i>	Fennel	On site
<i>Gnaphalium luteo-album</i>	Everlasting cudweed	On site
<i>Juncus xiphioidies</i>	Irisleaf rush	On site
<i>Medicago spp.</i>	Burclover	On site
<i>Polypogon monspeliensis</i>	Rabbitfoot grass	On site
<i>Populus fremontii</i>	Fremont's cottonwood	On site
<i>Scirpus spp.</i>	Bulrush	On site
<u>Animals</u>		
<i>Buteo jamaicensis</i>	Red-tailed hawk	On site, overhead
<i>Circus cyaneus</i>	Northern harrier	On site
<i>Corvus brachyrhynchos</i>	American crow	On site
<i>Falco sparverius</i>	American kestrel	On site, overhead
<i>Charadrius vociferus</i>	Killdeer	On site
<i>Mimus polyglottos</i>	Northern mockingbird	On site
<i>Zonotrichia atricapilla</i>	Golden-crowned sparrow	On site
<i>Thomomys bottae</i>	Botta's pocket gopher	On site
<i>Lepus californicus</i>	Black-tailed jackrabbit	On site
<i>Spermophilus beecheyi</i>	California ground squirrel	On site
Plant nomenclature follows Hickman (1993)		
Avian nomenclature follows the A.O.U. Checklist of North American Birds (1998)		
Mammalian nomenclature follows Baker et al. (2003)		

**Table 3.4-2
Special-Status Species Potentially Present on the Project**

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
SENSITIVE NATURAL COMMUNITIES				
Great Valley Valley Oak Riparian Forest	<i>Great Valley Valley Oak Riparian Forest</i>	Protected	This is a tall, dense, winter-deciduous, broad-leafed riparian forest. It exists in relatively fine-textured alluvium near active river channels. These sites experience overbank flooding (with abundant alluvial deposition and groundwater recharge), but without severe physical battering or erosion.	Absent. There are no Great Valley Valley Oak Riparian Forests or habitat that would support Great Valley Valley Oak Riparian Forests on the project site. Great Valley Valley Oak Riparian Forests will not be significantly impacted by this proposed project.
Northern Claypan Vernal Pool	<i>Northern Claypan Vernal Pool</i>	Protected	Northern Claypan Vernal Pools is a low, herbaceous community dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation. Claypan vernal pools are typically small and contain less cover than northern hardpan vernal pools.	Absent. There are no Northern Claypan Vernal Pools or habitat that would support Northern Claypan Vernal Pools on the project site. The proposed project will not significantly impact Northern Claypan vernal pools.
Northern Hardpan Vernal Pool	<i>Northern Hardpan Vernal Pool</i>	Protected	Northern Hardpan Vernal Pools is a low, herbaceous community dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation.	Absent. There are no Northern Hardpan Vernal Pools or habitat that would support Northern Hardpan Vernal Pools on the project site. The proposed project will not significantly impact Northern Hardpan vernal pools.
SPECIAL-STATUS PLANTS				
<i>Atriplex cordulata</i>	heartscale	1B.2	This annual plant occurs in Chenopod scrubland and grassland habitats, but it also is known to occur in wet areas. It is most common on alkaline soils.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
<i>Atriplex minuscula</i>	lesser saltscale	1B.1	This annual plant occurs in Chenopod scrubland, grassland, and alkali sink habitats, but it also is known to occur in wet areas.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Atriplex persistens</i>	Vernal pool smallscale	1B.2	This annual plant occurs in vernal pools.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Castilleja campestris</i> ssp. <i>Succulenta</i>	Succulent owl's clover	FT, CE, 1B.2	This annual plant occurs in vernal pools.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Caulanthus californicus</i>	California jewel flower	FE, CE, 1B.1	This plant occurs on sandy soils with Chenopod scrub, pinyon juniper woodland, and grasslands.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Chloropyron palmatum</i>	Palmate-bracted bird's beak	FE, CE, 1B.1	This plant occurs on pescadero silty clay in chenopod scrub, valley and foothill grassland habitats	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Cordylanthus palmatus</i>	Palmate-bracted bird's beak	FE, CE, 1B.1	This annual plant occurs in Chenopod scrubland and grassland habitats. It is most common on alkaline soils.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Delphinium recurvatum</i>	recurved larkspur	1B.2	This plant species is commonly found in chenopod scrub, valley and foothill grassland, and cismontane woodland.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Eriastrum hooveri</i>	Hoover's eriastrum	4.2	This plant occurs on sparsely vegetated alkaline fans and in temblor range on sandy soils in chenopod scrub, valley and foothill grassland and pinyon and juniper woodland habitats.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Eryngium spinosepalum</i>	Spiny-sepaled button celery	1B.2	This plant occurs on clay soil of granitic origin in vernal pools and valley and foothill grassland habitats.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
<i>Imperata brevifolia</i>	California satintail	2.1	California satintail occurs in chaparral, coastal scrub, Mojave desert scrub, alkali meadows, and seeps and riparian scrub habitat.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Leptosiphon serrulatus</i>	Madera leptosiphon	1B.2	This plant occurs in cismontane woodland and lower montane coniferous forests.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Linderiella occidentalis</i>	California linderiella	G3, S2S3	This plant occurs in vernal pools located in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone soils.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Orcuttia inaequalis</i>	San Joaquin Valley orcutt grass	FT, CE, 1B.1	This annual plant occurs in vernal pools.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Orcuttia pilosa</i>	Hairy orcutt grass	FE, CE, 1B.1	This annual plant occurs in vernal pools.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	This perennial rhizomatous herb occurs in marshes and swamps.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
<i>Tropidocarpum capparideum</i>	Caper-fruited tropidocarpum	1B.1	This annual plant occurs in valley and foothill grassland.	Absent. There is no habitat that would support this plant on the project site. The proposed project will not significantly impact this species.
SPECIAL-STATUS WILDLIFE				
<i>Agelaius tricolor</i>	tricolored blackbird	CSC	Tricolored blackbirds live near fresh water, and prefer emergent wetland vegetation with tall, dense cattails or tules, but they also are found in thickets of willow, blackberry, wild rose, and tall herbs. They forage in grassland and agricultural fields.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
<i>Ambystoma californiense</i>	California tiger salamander	FT, CT	California tiger salamanders occur in natural ephemeral pools or ponds that mimic them, that remain inundated for 12 weeks or more. They require nearby upland habitat containing small mammal burrows or crevices that provide refugia.	Absent. The site does not contain the type of aquatic habitat necessary for breeding nor is there suitable breeding habitat known from the vicinity of the project site. The proposed project will not significantly impact this species.
<i>Antrozous pallidus</i>	pallid bat	CSC	Pallid bats occur in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. They are most common in open, dry habitats with rocky areas for roosting. They are a locally common species in low elevations in California.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Athene cucularia</i>	burrowing owl	CSC, MBTA	This owl is found in open, dry grasslands, agricultural and range lands, and desert habitats. They are often associated with burrowing animals.	Possible. No burrowing owls were observed during the field survey, but suitable habitat for nesting and foraging occurs on the project site. Implementation of recommended mitigation measures would reduce impacts to this species to less than significant.
<i>Branchinecta conservatio</i>	conservancy fairy shrimp	FE	Conservancy fairy shrimp occur in rather large, cool-water vernal pools with moderately turbid water.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT	Vernal pool fairy shrimp occur in a variety of vernal pool habitats from small, clear sandstone rock pools to large, turbid, alkaline, grassland valley floor pools.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Buteo swainsoni</i>	Swainson's hawk	CSC, MBTA	Swainson's hawks occur in riparian forests and other forested areas. They roost in a variety of trees and forage widely over forests, grasslands, and shrublands. They are easily disturbed by human activities.	Possible. No Swainson's hawks were observed on or near the project site. They are not known to occur within 10 miles of the project site, but suitable foraging and nesting habitat occurs on the project site and within its vicinity. Implementation of recommended mitigation measures would reduce impacts to this species to less than significant.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
<i>Circus cyaneus</i>	Northern harrier	CSC, MBTA	Grasslands, agricultural margins, broken chaparral, and marshes.	Present. At least five adult northern harriers were observed on the project site during the survey. The site contains suitable foraging and nesting habitat. Implementation of recommended mitigation measures would reduce impacts to this species to less than significant.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	Valley elderberry longhorn beetles are associated with elderberry bushes (<i>Sambucus</i> spp.) in the Central Valley.	Absent. No elderberry bushes exist on or in the vicinity of the project site. There will be no impacts to this species as a result of this project.
<i>Dipodomys nitratoides exilis</i>	Fresno kangaroo rat	FE, CE	Fresno kangaroo rats historically occurred in alkali sink and open grassland habitats on the valley floor in Fresno County and portions of Tulare, Kings, and Madera counties. The last confirmed specimen was captured in 1992 and they may be extinct.	Absent. Suitable habitat is not present on the project site because the land has been continually disturbed from agricultural use. The site contained no sign of kangaroo rats. The proposed project will not significantly impact this species.
<i>Efferia antiochi</i>	Antioch efferian robberfly	G1G3, S1S3	This insect is known to occur only in Contra Costa and Fresno Counties.	Unlikely. No information is available on the life history of this species. Given the disturbed nature of the project site, it is not expected to occur there. The proposed project will not significantly impact this species.
<i>Eremophila alpestris actia</i>	California horned lark	CSC, MBTA	Horned larks are highly associated with open habitats, especially grasslands and desert environments.	Possible. No horned larks were observed during the field survey, but suitable habitat for nesting and foraging occurs within the project site. Implementation of recommended mitigation measures would reduce impacts to this species to less than significant.
<i>Eumops perotis californicus</i>	western mastiff bat	CSC	The mastiff bat roosts in crevices in cliff faces, high buildings, trees and tunnels. In California the mastiff bat is most commonly encountered in broad open areas, but also occurs in many semi-arid to arid habitats, including dry desert washes, flood plains, conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, montane meadows,	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
			palm oases, chaparral, desert scrub, urban, and agricultural areas.	
<i>Gambelia sila</i>	blunt-nosed leopard lizard	FE, CE	Blunt-nosed leopard lizards occur in sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. They seek cover in mammal burrows, under shrubs, or structures such as fence posts.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Hypomesus transpacificus</i>	Delta smelt	FT	Delta smelt are found only in the Sacramento and San Joaquin estuaries of the San Francisco Bay.	Absent. This species occurs in the brackish water of San Francisco Bay estuaries. No suitable habitat occurs on the project site. The project will not impact off-site habitat that contains this species. The proposed project will not have significant impacts on this species.
<i>Lasiurus cinereus</i>	Hoary bat	CSC	Hoary bats are highly associated with both deciduous and coniferous forests. This bat forages over aquatic features such as streams and ponds and it roosts in caves, trees, and buildings.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Lytta molestra</i>	Molestan blister beetle	G2, S2	This insect inhabits the central valley of California, from Contra Costa to Kern and Tulare Counties.	Unlikely. No information is available on the life history of this species. Given the disturbed nature of the project site, it is not expected to occur there. The proposed project will not significantly impact this species.
<i>Metapogon hurdi</i>	Hurd's metapogon robberfly	G1G3, S1S3	This insect is known to occur only in Antioch and Fresno Counties.	Unlikely. No information is available on the life history of this species. Given the disturbed nature of the project site, it is not expected to occur there. The proposed project will not significantly impact this species.
<i>Mylopharodon conocephalus</i>	Hardhead	CSC	This small fish inhabits deep pools in slow moving streams and rivers in the San Joaquin and Sacramento Valleys from Modoc County in the north to Kern County in the south.	Absent. There is no habitat that would support this animal on the project site. The project will not impact off-site habitat that contains this species. The proposed project will not significantly impact this species.
<i>Oncorhynchus mykiss</i>	Central Valley steelhead	FT	Steelhead occur in stream and rivers with connections with the San Joaquin River.	Absent. There is no habitat that would support this animal on the project site. . The

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
				project will not impact off-site habitat that could contain this species. The proposed project will not significantly impact this species.
<i>Perognathus inornatus</i>	San Joaquin pocket mouse	G4T2T3, S2S3	This insect is typically found in grasslands and blue oak savannas and requires friable soils.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Rana aurora draytonii</i>	California red-legged frog	FT	California red-legged frogs occur in small streams, ponds and marshes, preferably with dense shrubby vegetation such as cattails and willows near deep water pools.	Absent. No perennial aquatic habitat, which is a requirement for this species, occurs on or in the immediate vicinity of the project site. The proposed project will not significantly impact this species.
<i>Spea hammondi</i>	western spadefoot	CSC	Western spadefoot toads occur in grasslands with shallow temporary pools that remain inundated for four weeks or more.	Absent. The site does not contain the type of aquatic habitat necessary for breeding. The proposed project will not significantly impact this species.
<i>Taxidea taxus</i>	American badger	CSC	American badgers occur in dry, open grasslands, edges of farmland and pastures.	Possible. This species could occur as a transient forager on the project site. There is a 1988 occurrence record located four miles northeast of the site. Implementation of recommended mitigation measures would reduce impacts to this species to less than significant.
<i>Thamnophis gigas</i>	giant garter snake	FT, CT	Giant garter snakes require permanent or semi-permanent marshes and sloughs.	Absent. There is no habitat that would support this animal on the project site. The proposed project will not significantly impact this species.
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	FE, CT	San Joaquin kit foxes occur in open, dry grassland and shrub and open forest habitats on the floor of the San Joaquin Valley and surrounding foothills.	Possible. This species could occur as a transient forager on the project site. There are two occurrence records located northeast of the site. The project site is within the current accepted range of this species. Implementation of recommended mitigation measures would reduce impacts to this species to less than significant.

Sources:

California Department of Fish and Game. 2008. California Natural Diversity Data Base
California Native Plant Society (CNPS). 2008. Inventory of Rare and Endangered Plants, Rare Plant Scientific Advisory Committee.
United States Fish and Wildlife Service (USFWS). 2008. Critical Habitat Portal, Critical Habitat Map, United States Fish and Wildlife Service, Sacramento, CA.
United States Fish and Wildlife Service (USFWS). 2008. Federal Endangered and Threatened Species List, Sacramento Fish and Wildlife Office.

USGS 7.5 Minute Quadrangles:

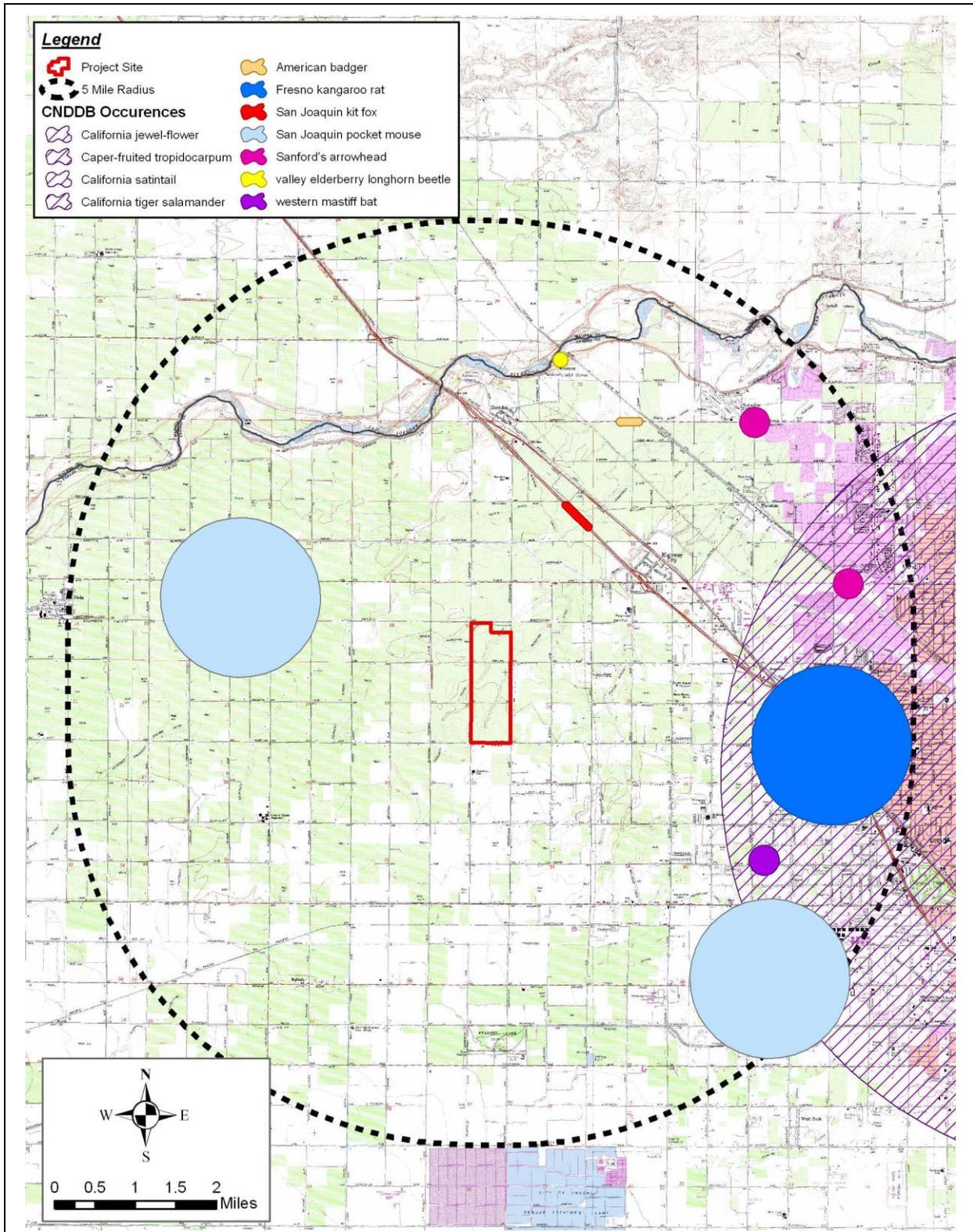
Herndon, Fresno South, Fresno North, Kearney Park, Biola, Madera, Kerman, Lanes Bridge, and Gregg quadrangles.

Abbreviations:

FE	Federal Endangered Species
FT	Federal Threatened Species
MBTA	Species Protected Under the Auspices of the Migratory Bird treaty Act
CE	California Endangered Species
CT	California Threatened Species
CSC	California Department of Fish and Game Species of Special Concern
1B	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere
1B.1	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere; Seriously Threatened in California
1B.2	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere; Fairly Threatened in California
2.1	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California, but More Common Elsewhere; Seriously Threatened in California

*Potential Occurrence Definitions:

- Present: Species or sign of their presence observed on site at time of the field survey.
- Likely: Species not observed on site, but may reasonably be expected to occur there on a regular basis. Or, species not observed on the site, exceptional habitat exists, and additional surveys needed to verify presence.
- Possible: Species not observed on site, but could occur there from time to time. Or, species not observed on the site, suitable habitat exists, and additional surveys needed to verify presence.
- Unlikely: Species not observed on site, and would not be expected to occur there except, perhaps, as a transient. Or, species not observed on the site, marginally suitable habitat exists, and additional surveys needed to verify presence.
- Absent: Species or sign of their presence not observed on site, and precluded from occurring there because habitat requirements are not met.




CNDDB MAP
Figure 3.4 - 1

Six special-status wildlife species have a possibility of occurring on the proposed project site—burrowing owl, Swainson’s hawk, California horned lark, northern harrier, San Joaquin kit fox and American Badger. The project site contains suitable foraging habitat and nesting substrate for the burrowing owl, northern harrier, and California horned lark. Five adult northern harrier were observed on the property during field surveys. There are no occurrence records for Swainson’s hawk within ten miles of the project site, but the property occurs within its historical and accepted current range. The two large Eucalyptus trees and two mature Fremont’s cottonwood trees that occur on the project site provide potential roosting habitat for Swainson’s hawks and other raptors and migratory birds. One of the eucalyptus trees near the north perimeter of the project site, for example, contained an inactive raptor nest. Prior to construction, the nest will be re-evaluated to determine raptor activity. San Joaquin kit foxes are known to occur within four miles of the project site and may occur on the site as transient foragers.

IMPACT EVALUATION CRITERIA

Significance thresholds are based upon Appendix G of the *State CEQA Guidelines*. Using these Guidelines, the proposed project would normally have a significant impact on biological resources if it would:

Would the project:

- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in a local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
- c) *Have a substantial adverse effect on 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.*

3.4.2 IMPACT ANALYSIS

The Initial Study concluded that the proposed project would not conflict with local plans or policies protecting biological resources nor conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plan. These issues are therefore not addressed further in this Draft EIR.

Impact #3.4.1 – Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in

local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The reconnaissance level biological survey (Appendix D) found that special-status species may occur on the project site. Six wildlife species have a possibility of occurring on the project site—burrowing owl, Swainson’s hawk, California horned lark, northern harrier, San Joaquin kit fox and American Badger. The project site contains suitable foraging habitat and nesting substrate for the burrowing owl, northern harrier, and California horned lark. Five adult northern harriers were observed on the property during field surveys. There are no occurrence records for Swainson’s hawk within ten miles of the project site, but the property occurs within its historical and accepted current range. There are two large Eucalyptus trees and two mature Fremont’s cottonwood trees that occur on the project site and provide potential roosting habitat for Swainson’s hawks and other raptors and migratory birds. One of the eucalyptus trees near the north perimeter of the project site, for example, contained an inactive raptor nest. Prior to construction, the nest will be re-evaluated to determine raptor activity. San Joaquin kit foxes are known to occur within four miles of the project and may occur on the site as transient foragers.

The project site may provide some foraging opportunities for a number of additional sensitive avian species including various species of raptors and migratory birds that are protected by the Migratory Bird Treaty Act. Although the loss of foraging habitat is not considered significant, measures will be required to protect species attracted to the foraging habitat.

Conclusion: Impacts to burrowing owl, Swainson’s hawk, California horned lark, northern harrier, San Joaquin kit fox and American Badger are *potentially significant*.

Mitigation Measure #3.4.1a: Protection of burrowing owls.

1. Pre-construction surveys should be conducted to determine the presence of nesting birds if ground clearing or construction activities will be initiated during the breeding season (February 15 through September 15). The portion of the project site on which construction is to take place and potential nesting areas within 500 feet of the proposed construction area should be surveyed 14 to 30 days prior to the initiation of construction. Surveys should be performed by a qualified biologist or ornithologist to verify the presence or absence of nesting birds. Construction should not occur within a 500 foot buffer surrounding active nests of raptors or a 250 foot buffer surrounding active nests of migratory birds. If construction within these buffer areas is required or if nests must be removed to allow continuation of construction, then approval and specific removal methodologies should be obtained from CDFW.
2. If during pre-construction nest surveys, burrowing owls are found to be present, the following measures will be implemented:
 - a. Compensation for the loss of burrowing owl habitat will be negotiated with the responsible wildlife agencies. Appropriate mitigation may include participation in an approved mitigation bank, establishing a conservation easement, or other means acceptable to the responsible agency.

- b. Exclusion areas will be established around occupied burrows in which no construction activities would occur. During the non-breeding season (September 1 through January 31), the exclusion area would extend 160 feet around any occupied burrows. During the breeding season of burrowing owls (February 1 through August 31), exclusion areas of 250 feet surrounding occupied burrows would be installed.
- c. If construction must occur within these buffer areas, passive relocation of burrowing owls may be implemented as an alternative, but only during the non-breeding season and only with the concurrence of the CDFW. Passive relocation of burrowing owls would be implemented by a qualified biologist using accepted techniques. Burrows from which owls had been relocated would be excavated using hand tools and under direct supervision of a qualified biologist.
- d. Compensation for the loss of burrowing owl burrows removed during construction will be negotiated with the responsible wildlife agency. This may require that replacement burrows be constructed on compensation lands.

Effectiveness of Mitigation Measures: The mitigation measures listed above are standardized survey protocols and avoidance measures that have been adopted by the CDFW. Implementation of these mitigation measures will prevent disrupting nesting behaviors and ensure nesting success of burrowing owls. This will result in impacts from the project to burrowing owls being *less than significant*.

Mitigation Measure #3.4.1b: Protection of Swainson’s hawks and other raptors (including northern harrier) and migratory birds (including California horned lark).

1. Pre-construction surveys should be conducted to determine the presence of nesting birds if ground clearing or construction activities will be initiated during the breeding season (February 15 through September 15). Potential nesting areas on the project site and potential nesting areas within 500 feet of the site should be surveyed 14 to 30 days prior to the initiation of construction. Surveys should be performed by a qualified biologist to verify the presence or absence of nesting birds. Construction should not occur within a 500 foot buffer surrounding active nests of raptors or a 250 foot buffer surrounding active nests of migratory birds. If construction within these buffer areas is required or if nests must be removed to allow continuation of construction, then approval and specific removal methodologies should be obtained from California Department of Fish and Wildlife.
2. All trees which are suitable for Swainson’s hawk nesting that are within 2,640 feet of construction activities should be inspected by a qualified biologist.
3. If potential Swainson’s hawk nests are found during the inspection, then surveys should be conducted at the following intensities, depending upon dates of initiation of construction:

Construction start	Survey period	Number of surveys	Timing
1 January to 20 March	1 January to 20 March	1	All day
21 March to 24 March	1 January to 20 March	1	All day
	21 March to 24 March	Up to 3	Sunrise to 10 am and 4 pm to sunset
24 March to 5 April	1 January to 20 March	1	All day
	21 March to 5 April	3	Sunrise to 10 am and 4 pm to sunset
6 April to 9 April	21 March to 5 April	3	Sunrise to 10 am and 4 pm to sunset
	6 April to 9 April	Up to 3	Sunrise to 10 am and 4 pm to sunset
	1 January to 20 March	1 (if all 3 surveys are performed between 6 and 9 April, then this survey need not be conducted)	All day
10 April to 30 July	21 March to 5 April	3	Sunrise to 10 am and 4 pm to sunset
	6 April to 20 April	3	Sunrise to 12 pm and 4:30 pm to sunset
31 July to 15 September	6 to 20 April	3	Sunrise to 12 pm and 4:30 pm to sunset
	10 to 30 July	3	Sunrise to 12 pm and 4 pm to sunset

4. If Swainson's hawks are detected to be actively nesting in trees within 2,640 feet of the construction area, construction should not occur within this zone until after young Swainson's hawks have fledged (this usually occurs by early June). The nest should be monitored by a qualified biologist to determine fledging date. According to the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (CDFG 1994), mitigation for foraging habitat is not mandatory for this site because there are no known CNDDDB occurrences within 10 miles of the project site. However, if Swainson's hawks are found within the project area, the project site could be considered foraging habitat and compensation for foraging habitat would be required by CDFW at a ratio of 0.75 to 1 (0.75 acre for every 1.0 acre adversely affected). If there are active nests within one mile of the site, then compensation for foraging habitat would be at a ratio of 1:1.
5. If northern harriers or other raptors are found actively nesting within 250 feet of the construction area, construction should be postponed until after young have fledged. The date of fledging should be determined by a qualified biologist. If construction cannot be delayed within this zone, the CDFW should be consulted and alternative protection measures required by the CDFW should be followed.

- If other nesting birds (particularly non-raptor species listed on the MBTA) are found actively nesting within 250 feet of the construction area, construction should be postponed until after young have fledged. The date of fledging should be determined by a qualified biologist. If construction cannot be delayed within this zone, the CDFW and/or the USFWS should be consulted and alternative protection measures required by the CDFW and/or the USFWS should be followed.

Effectiveness of Mitigation Measures: The mitigation measures listed above are standardized survey protocols and avoidance measures that have been adopted by the CDFW. Implementation of these mitigation measures shall prevent disrupting nesting behaviors and ensure nesting success of Swainson’s hawks or other raptors, which may nest on or adjacent to the project site. This will result in impacts from the project to Swainson’s hawk, California horned lark, and northern harrier being *less than significant*.

Mitigation Measure #3.4.1c: To protect San Joaquin kit foxes and American badgers, the developer shall follow the *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 1999). The measures that are listed below have been excerpted from those guidelines and would protect San Joaquin kit foxes and American badgers from direct mortality and from destruction of active dens and natal or pupping dens.

- Pre-construction surveys should be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, or any project activity likely to impact the San Joaquin kit fox or American badger. Exclusion zones should be placed around dens in accordance with USFWS Recommendations using the following:

Potential Den	50 foot radius
Known Den	100 foot radius
Natal/Pupping Den (Occupied and Unoccupied)	Contact U.S. Fish and Wildlife Service for guidance
Atypical Den	50 foot radius

If dens must be removed, they should be appropriately monitored and excavated by a trained wildlife biologist. Replacement dens would be required. Destruction of natal dens and other “known” kit fox dens should not occur until authorized by USFWS.

- Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes and American badgers are most active. Nighttime construction should be avoided, unless the construction area is appropriately fenced to exclude kit foxes and American badgers. The area within any such fence should be determined to be uninhabited by San Joaquin Kit foxes and American badgers prior to initiation of construction. Off-road traffic outside of designated project areas should be prohibited.
- To prevent inadvertent entrapment of kit foxes, American badgers, or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar

materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.

4. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe, becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
5. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or Project Site.
6. No firearms should be allowed on the Project Site during the construction phase.
7. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on the Project Site.
8. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restriction deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
9. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.
10. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this

information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

11. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to “temporary” disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Wildlife (CDFW), and revegetation experts.
12. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.
13. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured, or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The Service should be contacted at the numbers below.
14. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
15. New sightings of kit foxes shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-66200 or (916) 414-6600

Effectiveness of Mitigation Measures: The mitigation measures listed above are standardized survey protocols and avoidance measures that have been adopted by the resource agencies.

Implementation of these mitigation measures will prevent disrupting the natural activities of San Joaquin kit fox and American badger. This will result in impacts from the project to San Joaquin kit fox and American badger being *less than significant*.

Impact #3.4.2 – Aquatic Invasive Species (man-made lake).

The focus of the project will be a 55 acre manmade ("artificial") lined lake, oriented in a north-south direction and over one mile in length. In addition to being a recreational amenity (for non-contact activities such as non-motorized boating), the lake will also detain storm water and incidental drainage flows. It is anticipated a homeowners association will own and operate the lake facility. The cross-section design of the lake has not yet been finalized but it is anticipated that typical "edge" depths will be 3 to 4 feet and "center" depths of up to 12 feet (see Figure 2-7). It will be designed with north-to-south "stepped" water level control structures to assure required level depths and provide adequate freeboard for drainage detention. Operational activities associated with the 55-acre lake may require the use of chemicals to maintain lake water quality. Lake "draw-down" for maintenance would be scheduled at ten year intervals. No vegetation shall be allowed on the surface or at the shoreline of the lake, in order to eliminate potential mosquito sources.

There is the potential that non-native species may infest the proposed lake by indirect methods such as through the project storm drainage system and direct methods such as watercraft attachment and illegal dumping of material into the lake. Of particular concern in Central California are overgrowths of duckweed (*Lemnaoideae* spp.), "rock snot" algae (*Didymosphenia geminata*), purple loosestrife (*Lythrum salicaria* L.), water hyacinth (*Eichhornia* spp.), zebra and quagga mussels (*Dreissena polymorpha* and *D. rostriformis bugensis*), New Zealand mudsnail (*Potamopyrgus antipodarum*), Asian clams (*Corbicula fluminea*), Asian carp (eight invasive species, with grass carp, *Ctenopharyngodon idella*, being a particular problem), largemouth bass (*Micropterus salmoides*), African clawed frogs (*Xenopus laevis*), and exotic catfish (especially walking catfish, *Clarias batrachus*).

The California Department of Fish & Wildlife prepared the *California Aquatic Invasive Species Management Plan* (2008), which identified potential aquatic invasive species as well as management control. According to the document "Prevention is the most effective and environmentally sensitive method of managing AIS [Aquatic Invasive Species]. Prevention revolves around the interception of AIS at the point of entry or release." (Page 63). The United States Department of Agriculture also provides guidance on control and management of invasive species.

It should be noted that neither the lake nor the drainage / recharge basin have any connection to waters of the state. Any impacts from invasive species would be confined to the lake only. However, measures will be required to protect the lake from aquatic invasive species.

Conclusion: Impacts from aquatic invasive species are *potentially significant*.

Mitigation Measure #3.4.2a: Source control Best Management Practices shall be implemented by the developer and include:

- a) Public Education/Participation activities. Information shall be provided to new project residents and tenants regarding aquatic invasive species and potential dangers associated therewith.
- b) Material Disposal and Recycling, which includes storm drain system signs and stenciling with language to discourage illegal dumping of unwanted materials.
- c) Illegal Dumping Controls. Any Covenants, Conditions, and Restrictions (CC&R's) for the developments of the proposed project shall include a prohibition on the dumping of waste products (solid waste/liquid waste and yard trash) into storm drain systems and open space areas.
- d) Watercraft Attachment Controls. Any CC&R's shall include a provision to clean and scrub any vessels that have been utilized elsewhere to remove any potential invasive species attached to the vessel.
- e) The applicant shall provide a permanent storm drain message "No Dumping - Flows to Lake" at each storm drain inlet within the proposed project site. This may be accomplished with a stamped concrete impression (for curbs) or manufactured colored tiles, which are epoxyed in place adjacent to the inlet (for parking lots and areas without curbs).

Mitigation Measure #3.4.2b: The Homeowners Association, as a part of the lake's routine maintenance plan, utilize a qualified professional to inspect the lake for aquatic invasive species and eradicate any found species in accordance with CDFW and USDA guidelines and procedures.

Effectiveness of Mitigation Measures: These measures will result in impacts from the project from aquatic invasive species being *less than significant*.

Impact #3.4.3 – Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

No riparian or other sensitive natural vegetative communities occur on the project site.

Conclusion: The proposed project will have *less than significant impacts* on sensitive natural communities.

Mitigation Measures: No mitigation measures are required.

Impact #3.4.4 – Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

There are no jurisdictional waters or wetlands on the site that would be impacted by the proposed project. Although there are two irrigation canals on the project site, they are fed by a series of

larger canal systems, do not connect to and are far removed from navigable waters that would be considered jurisdictional under Section 404 of the Clean Water Act. FID recommends that these canals be piped underground, with an easement preferably centered over each pipeline so that irrigation water can continue to be delivered to downstream users. These two canals terminate less than one mile downstream of the project site in agricultural lands. No wetlands occur along or at the terminus of either canal, either on site or downstream of the project site.

Conclusion: The irrigation canals that occur on the project site are not considered wetlands or jurisdictional waters impacts are considered to be *less than significant*.

Mitigation Measure: No mitigation measures are required.

Impact #3.4.5 – Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The project site contains no obvious wildlife movement corridors or topographic constrictions.

Conclusion: The proposed project will have *less than significant impacts* on movement corridors.

Mitigation Measure: No mitigation measures are required.

3.5 Cultural Resources

INTRODUCTION

This section addresses potential impacts to historical, archaeological, and paleontological resources that could result from proposed project development.

Paleontological resources include vertebrate, invertebrate and plant fossils. All prehistoric human related artifacts are considered “archeological” resources and all human-related artifacts from the era of the written record are considered “historical” resources. Although there can be some cross-over between archeological and historical resources, “historical” is generally applied to artifacts dating from the start of European colonization of the region.

3.5.1 REGULATORY AND PHYSICAL SETTING

Regulatory

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural resources that could be affected by actions that they undertake or regulate. The National Environmental Policy Act (NEPA), the National History Preservation Act of 1966 (NHPA), the American Antiquities Act of 1906, and the California Environmental Quality Act (CEQA) are the principal federal and state laws governing preservation of historic and archaeological resources of national, regional, state, and local significance.

Paleontological resources on federal lands are protected under various laws relating to the protection of public properties; these laws are enforced through the issuance of permits by the appropriate agencies. However, paleontological resources existing on private property within California are generally unprotected under State law.

FEDERAL

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council’s implementation regulations, “Protection of Historic Properties,” are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register of Historic Places. The criteria for determining National Register eligibility are found in 36 CFR Part 60. Amendments to the NHPA (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provision for Native American consultation and participation in the Section 106 review process. Although federal agencies must follow federal regulations, most projects of private developers and landowners do not require this level of compliance. Federal regulations only apply in the private sector if a project requires a federal permit or if it uses federal money (federal nexus).

Under the NHPA, the quality of significance in American history, architecture, archaeology, and culture must be evaluated for districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, material, handiwork, feeling, and association. Additionally, the National Register of Historic Places requires consideration of significance for any structure over 45 years old.

STATE

State historic preservation regulations affecting this project include the statutes and guidelines contained in CEQA (Public Resources Code Sections 21083.2 and 21084.1, and Sections 15064.5 and 15126.4(b) of the CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. Historical resource includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (Public Resources Code Section 5020.1).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR), *CEQA and Archaeological Resources* (1994). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities including, but not limited to, museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097 et seq.).

California Register of Historical Resources (Public Resources Code Section 5020 et seq).

The State Historic Preservation Office (SHPO) maintains the California Register of Historical Resources (CRHR). Properties listed, or formally designated as eligible for listing, on the National Register of Historic Places are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

For the purposes of CEQA, a historical resource is a resource listed in, or determined eligible for listing, on the CRHR. When a project will impact a site, it needs to be determined whether the site is a historical resource. The criteria are set forth in Section 15064.5(a)(3) of the CEQA Guidelines, and are defined as any resource that:

- A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- B. Is associated with the lives of persons important in our past;
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, CEQA Guidelines Section 15064.5(a)(4) states:

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

California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

California Public Resources Code Section 15064.5(e)

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project and establishes the Native American Heritage Commission (NAHC) as the entity responsible to resolve disputes regarding the disposition of such remains.

Senate Bill (SB) 18/922

Senate Bill 18, signed into law by Governor Schwarzenegger in September 2004, requires cities and counties to notify and consult with California Native American tribes about proposed adoption of, or changes to, general plans and specific plans for the purpose of protecting Traditional Tribal Cultural Places. Interim tribal consultation guidelines were published by OPR on March 1, 2005. The proposed project falls under the SB 18 requirements as defined by OPR, and the City of Fresno is required to contact NAHC and request consultation. SB 922 provides additional guidance to agencies.

LOCAL

City of Fresno General Plan

The most applicable policies of the City of Fresno General Plan that have been adopted relative to the preservation and protection of historical, archaeological and paleontological resources are as follows:

Resource Conservation Element

G-10-b. Policy Historic structures, districts, sites, and landscape features shall be considered as those which:

- *Represent past eras, events, and persons important in history;*
- *Provide significant examples of architectural styles of the past or are landmarks in the history of architecture;*
- *Are unique and irreplaceable assets to the city and its neighborhoods or provide examples of the physical surroundings in which past generations lived, for this and future generations; and*
- *Designated historic districts shall be "living" examples of maintaining quality and continuity of historic resource material and the overall character of the neighborhood.*

G-10-e. Policy Unique prehistoric resource sites shall be considered as those archaeological and paleontological sites which:

- *Contain information needed to answer important scientific research questions; and*
- *Have special quality or unique features, such as being the oldest, largest, or most complete example of a particular type of site or are directly associated with a scientifically recognized prehistoric or historic event or person.*

G-11-a. Policy Continue and expand the city's comprehensive historic preservation program, as set forth in this Historic Resources component of the general plan.

G-11-b. Policy The Historic Preservation Commission shall take a lead role in the following historic preservation activities:

- *Surveying, identifying, and recommending approval of the designation of historic resources, including conservation and heritage districts;*
- *Making annual budget cycle funding requests to city, county, state, and federal agencies, and to private foundations and nonprofit public corporations and prioritizing which historic conservation projects should receive available city-administered funding for implementation of historic preservation objectives;*
- *Appropriately staff the city historic preservation program to implement the city's historic preservation policies and programs;*

- *Programs aimed at neighborhood improvement, including nuisance abatement, shall complement the preservation of cultural resources; and*
- *Increase cooperative efforts with the Fresno County Historic Landmarks and Records Advisory Commission.*

G-11-c. Policy Implement and broaden the resource conservation program as set forth by the Preservation of Historic Structures Ordinance.

- *Perpetuate, protect, enhance, and revitalize historic resources.*
- *Encourage adaptive current uses of historic resources, while preserving their unique features.*
- *Zoning, building, fire, health, housing, landscape/xeriscape, and other related codes shall be liberally construed, and amended if necessary, to provide for a more supportive regulatory structure to assist in historic preservation objectives, while maintaining the essential level of protection for health and safety.*
- *Encourage the use of, and educate city staff on the use of, the State Historic Building Code. This code shall be used to guide plan checking and inspections in structures that have been recognized by the Historic Preservation Commission as qualified under the Historic Building Code.*
- *Before the issuance of a formal demolition order by the city involving structures over fifty (50) years old, potential Local Register listing shall be reviewed by historic preservation staff, and, if necessary, referred to the Historic Preservation Commission. This shall be subject to staffing levels and amendment of the city's Historic Preservation Ordinance.*
- *Before any nonemergency removal of historic trees or landscape elements, the City Historic Preservation Commission shall be given an opportunity to review the proposed action and make a recommendation as to potential alternative actions.*
- *Prior to demolition, the city shall offer for sale all city-owned relocatable Local Register, National Register, or State Landmark structures acquired within public project boundaries to buyers prepared to relocate the structures. All such structures shall be offered for sale a minimum of 180 days. Preference will be given to buyers intending to relocate these structures to parcels in designated city historic districts.*
- *The Historic Preservation Commission may recommend to the city council that the city be the "purchaser of last resort" to acquire endangered structures that are on the Local or National Historic Register, or are State*

Historic Landmarks, and relocate them to other locations in historic districts. The commission and council shall establish criteria to prioritize the acquisition of endangered historic structures based upon economic feasibility for each individual project and the need to balance such commitments of financial resources so that an acquisition does not materially detract from accomplishing other priority projects which require public historic preservation funding.

G-11-d. Policy Prehistoric resources (those containing archaeological and paleontological material) shall be protected.

- *In any public or private project, it shall be a condition of project permits that work stop immediately in the immediate vicinity of the find if archaeological and/or nonhuman fossil material is encountered on the project site.*
- *If there are suspected human remains, the Fresno County Coroner shall be immediately contacted. If the remains or other archaeological materials are possibly Native American in origin, the Native American Heritage Commission shall be immediately contacted, and the California Archeological Inventory's Southern San Joaquin Valley Information Center shall be contacted to obtain a referral list of recognized archaeologists.*
- *An archaeological assessment shall be conducted for the project if prehistoric human relics are found that were not previously assessed during the environmental assessment for the project. The site shall be formally recorded, and archaeologists' recommendations shall be made to the city on further site investigation or site avoidance/ preservation measures.*
- *If nonhuman fossils are uncovered, the Museum of Paleontology at U.C. Berkeley shall be contacted to obtain a referral list of recognized paleontologists. If the paleontologist determines the material to be significant, it shall be preserved.*

G-11-e. Policy If the site of a proposed development or public works project is found to contain unique prehistoric (archaeological or paleontological) resources, and it can be demonstrated that the project will cause damage to these resources, reasonable efforts shall be made to permit any or all of the resource to be scientifically removed, or it shall be preserved in situ (left in an undisturbed state). In situ preservation may include the following options, or equivalent measures:

- *Amending construction plans to avoid prehistoric resources;*

- *Setting aside sites containing these resources by deeding them into permanent conservation easements;*
- *Capping or covering these resources with a protective layer of soil before building on the sites;*
- *Incorporating parks, green space, or other open space in the project to leave prehistoric sites undisturbed and to provide a protective cover over them; and*
- *In order to protect prehistoric resources from vandalism or theft, their location shall not be publicly disclosed until or unless the site is adequately protected.*

Physical Setting (Existing)

The project site is located adjacent to, and to the west of, the Fresno City limit boundary, between Shields Avenue and Rialto Avenue to the north-south and between Grantland Avenue and the Garfield Avenue alignment to the west. The site is currently fallow farmland, but has been in agricultural production for decades with a mixture of orchard and row crops and was dry farmed until 2007.

ARCHAEOLOGICAL

The proposed project site is located in the San Joaquin Valley, which has been occupied by Native American groups for thousands of years. There is evidence of human habitation in the San Joaquin Valley dating to 11,000 years ago, although only a few archaeological sites of this antiquity have been identified at the present time.

Native American groups that inhabited the San Joaquin Valley during ethnographic times were known as the Yokuts, a group of 40-50 recognizable tribes of the Penutian linguistic family.

Upon contact with the Europeans, which first occurred in the late 1700s, the numbers of Yokuts rapidly diminished. Their home of the valley floor was readily accessible to encroachment by settlers. The early pioneers were followed in rapid succession by the farmers with the plow and by fences, roads, railroads, and flourishing cities. By the 1910 census, a total of 533 Yokuts were counted in the state.

HISTORICAL

Historic preservation helps a community retain physical links to significant architecture, persons, events, and landscapes from past time periods. As Fresno moves into the twenty-first century and intensifies its land uses, there will be development pressure on older sections of the City. The Resource Conservation Element of the City's General Plan provides policy direction to protect, and to continue appropriate use of, Fresno's historic resources. Structures of architectural quality and locations of cultural significance (including prehistoric sites, structures,

and neighborhoods/ districts) are to be preserved through identification, listing on Historic Registers, monitoring, maintenance, and safeguarding of their settings.

According to the Phase 1 Environmental Site Assessment, and aerial photos dating back to 1937, the project site has historically been in agricultural production with orchards and row crops. Aerial photographs in 2002 show remnants of former orchards at the proposed project site.

Building permit records from the City of Fresno revealed a demolition permit for a single family residence at 3361 North Grantland Avenue, dated July 17, 1976.

The Cultural Resources Records search and technical report indicated that there are no historic or cultural resources within the proposed project site (reference Appendix E). In addition, the location of the proposed 25-acre replacement recharge basin (just south of Shields Avenue) is currently in agricultural production and is unlikely to contain historic or cultural resources.

IMPACT EVALUATION CRITERIA

In determining the significance of impacts to archaeological resources, Section 15064.5 of the CEQA Guidelines shall be used.

Significance Thresholds

The State CEQA Guidelines use the following criteria for evaluating adverse effects on cultural resources:

- a) *Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5.*
- b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.*
- 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.*

3.5.2 IMPACT ANALYSIS

Impact #3.5.1 – Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in Section 15064.5 of the CEQA Guidelines.

The Cultural Resources Records search and technical report (reference Appendix E) conducted for the proposed project found no evidence of historical or archaeological resources within the proposed project site. Due to the fact that a typical archaeological resource would be buried, there is a possibility that undocumented resources may be encountered.

Conclusion: Although there is no record evidence of historical or archaeological sites on the project site, there is the potential during project-related excavation and construction for the discovery of archaeological resources. This impact is *potentially significant*, but can be mitigated to a less than significant level as follows:

Mitigation Measure #3.5.1: Should buried cultural resources (historic, archaeological, paleontological, unique geologic feature) be discovered during construction, the project contractor shall immediately halt all work within 50 feet of the find until a qualified professional archaeologist, historian, paleontologist, or geologist, as necessitated by the find, can be consulted to evaluate the find and implement appropriate mitigation measures. Should human skeletal remains be encountered, State law requires immediate notification of the County Coroner. Should the County Coroner determine that such remains are in an archaeological context, the Native American Heritage Commission in Sacramento shall be notified immediately, pursuant to State law, to arrange for Native American participation in determining the disposition of remains.

Effectiveness of Mitigation: Potential impact to historical and archaeological resources would be *less than significant* with implementation of the above mitigation measure.

Impact #3.5.2 – Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value.

Impacts on paleontological resources or geologic features can result either directly or indirectly from pre-construction activities and construction of a proposed project. Direct impacts are those which result from the immediate disturbance of resources by vegetation removal, vehicle travel over the surface, earthmoving activities, excavation, or alteration of the setting of a resource. Indirect impacts are those which result from increased erosion due to project site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource materials which could occur due to improved accessibility. The project site has been historically and extensively farmed and it is unlikely, due to extensive surface disturbance (tilling, disking, and other agricultural practices), that any surface paleontological resources exist.

Conclusion: Although there is no record evidence of paleontological resources or geologic features on the project site, there is the potential during project-related excavation and construction for the discovery of potential resources. This impact is *potentially significant*, but can be mitigated to a less than significant level as follows:

Mitigation Measures: Implementation of Mitigation Measure #3.5-1. No additional mitigation measures are required.

Effectiveness of Mitigation: Potential impact to paleontological resources and geological features would be *less than significant* with implementation of the above mitigation measure.

Impact #3.5.3 – Disturb any human remains, including those interred outside of formal cemeteries.

Concordant with the mandates of Section 7050.5 of the California Health and Safety Code, if human remains are discovered during the construction phase of a development, all work must stop in the immediate vicinity of the find, and the County Coroner must be notified. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner the appropriate method for the disposition of the remains and any associated grave goods. .

Conclusion: Although there is no record evidence of human burials on the project site there is the potential during project-related excavation and construction for the discovery of such. This impact is *potentially significant*, but can be mitigated to a less than significant level as follows:

Mitigation Measures: Implementation of Mitigation Measure #3.5-1. No additional mitigation measures are required.

Effectiveness of Mitigation: Potential impact to human remains would be *less than significant* with implementation of the above mitigation measure.

3.6 Geology and Soils

INTRODUCTION

This section describes the regulatory framework and existing conditions related to geologic and soils hazards in and around the project site, and potential geotechnical and soils impacts that could result from proposed project development..

3.6.1 REGULATORY SETTING

FEDERAL

Uniform Building Code

The Uniform Building Code includes development standards for projects to comply with appropriate seismic design criteria, and adequate drainage facility design, and preconstruction soils and grading studies. Seismic design standards have been established to reduce many of the structural problems occurring because of major earthquakes. In 1998, the code was revised as follows:

- Upgrade the level of ground motion used in the seismic design of buildings;
- Add site amplification factors based on local soils conditions; and
- Improve the way ground motion is applied in detailed design.

Clean Water Act (Erosion Control)

The Clean Water Act (CWA) (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain nonpoint source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb one or more acres of land are required to obtain NPDES coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit), Order No. 99-08-DWQ. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which includes Best Management Practices (BMPs) to protect stormwater runoff, including measures to prevent soil erosion.

STATE

International Building Code/California Building Code

The International Building Code (IBC) incorporates data regarding the response of structures to seismic events as a basis for structural design. The IBC considers primary lateral seismic forces and general soil types. The objective of the IBC is to protect the life safety of building occupants and the public. The IBC provisions are enforced by the City through the building permit process during which plans for proposed structures are examined for compliance with the applicable provisions of the IBC. In large earthquakes, compliance with provisions of the IBC would reduce the risk of complete structural failure, although structural damage may be expected. All new construction must comply with the current version of the IBC.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (CPRC Division 2, Chapter 7.5) was passed in 1972 in an effort to reduce the potential human safety risks associated with surface faults by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The law only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 addresses earthquake hazards other than fault rupture, including liquefaction and seismically induced landslides. Seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The SHMA states that, "It is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety." Section 2697(a) of the SHMA additionally requires that, "Cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard." Fresno County has not been mapped under the SHMA yet since the State has targeted higher risk areas, such as the San Francisco Bay Area and the Los Angeles/Riverside areas. However, as discussed below, the project site has a relatively low risk of seismic hazards.

LOCAL

County of Fresno

The Fresno County Public Works and Planning Department asserts a right to review grading plans for City projects which may affect drainage to unincorporated property.

City of Fresno General Plan

The following City of Fresno General Plan policies are designed to protect life and property from geologic or unstable soil hazards:

Safety Element

- I-3-a. Policy* *The City of Fresno shall enforce the latest adopted Uniform Building Code and the Dangerous Building Ordinance (Article 4, Chapter 12)¹ to ensure seismic protection for new and existing construction.*
- I-3-b. Policy:* *Swimming pools and spas shall be considered structures for purposes of engineering evaluations of soil and seismic stability, and these structures shall conform to setback requirements imposed to safeguard construction from unstable strata.*
- I-3-c. Policy* *In areas having potential geological and soils hazards, development shall not have on-site drainage or disposal for wastewater, stormwater runoff, or spas and swimming pool water, unless a soil analysis by a registered civil engineer (or engineering geologist specializing in soil geology) concludes that on-site drainage/disposal will not induce geologic hazards.*
- I-3-d. Policy* *Development shall be prohibited in areas where analysis by a registered civil engineer or registered geologist determines that no corrective measures could feasibly mitigate potential geologic hazards.*
- I-5-a. Policy:* *Support the full implementation of the Fresno Metropolitan Flood Control District (FMFCD) Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities.*
- I-5-d. Policy.* *Ensure implementation of the Fresno Metropolitan Flood Control District urban drainage program, including completion of the urban storm drainage systems to provide protection to the urban community from waters originating within the urban area.*
- I-5-e. Policy.* *Ensure implementation of land grading and development policies which protect area residents from flooding caused by urban runoff produced by events which exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities.*

¹ The Fresno Municipal Code was re-chaptered subsequent to the approval of the General Plan EIR; the correct article and chapters are provided herein.

City of Fresno Municipal Code

Fresno Municipal Code Section 12-1023 – Grading and Erosion Control) stipulates that approved parcel maps shall be conditioned on compliance with its requirements for grading and erosion control, including the prevention of sedimentation or damage to off-site property as set forth in Appendix Chapter 70 of the Uniform Building Code, 1973 Edition, Volume I, as adopted and amended by the city as part of the Code.

Environmental Setting

REGIONAL GEOLOGY

The City of Fresno is located in the south central portion of the Great Valley geomorphic province of California. The Great Valley, also known as the Central Valley, is an elongated, northwest-trending, nearly flat lowland located between the Sierra Nevada Mountains on the east and the Coast Ranges on the west. The Sacramento River drains the northern portion of the Great Valley, and the San Joaquin River drains the southern portion. The southern part of the Great Valley, where the project site is located, is also known as the San Joaquin Valley.

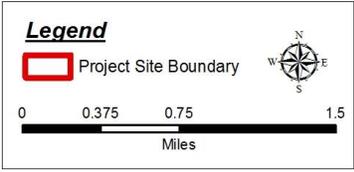
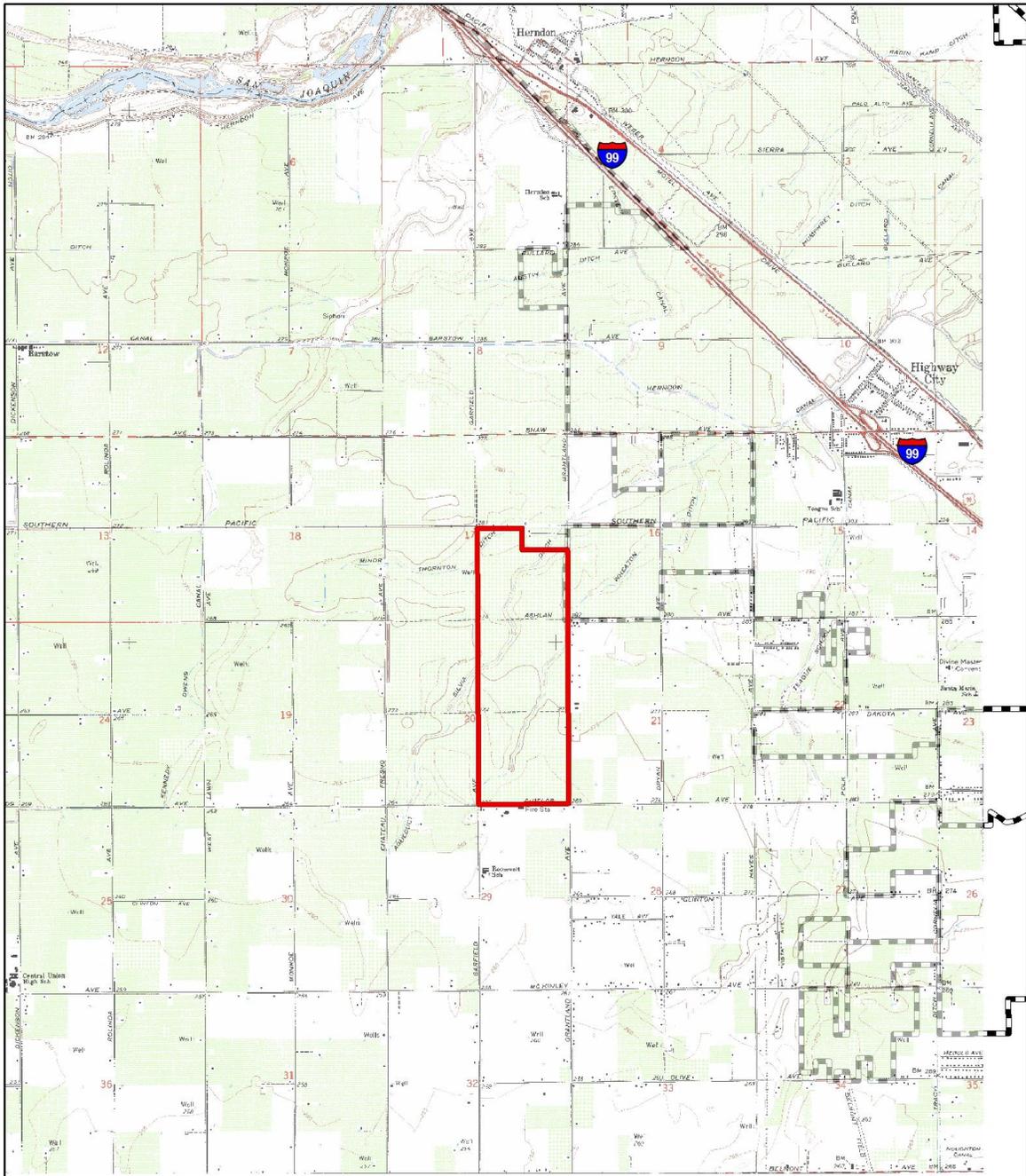
The Great Valley consists of the alluvial flood and delta plains of the Sacramento River, the San Joaquin River, and their tributaries. The region has persisted as a shallow marine embayment, and later as lowland, for the entire Cenozoic and the latest Mesozoic eras (from about 100 million years ago to present). The valley originated below sea level as an offshore area that was later enclosed by uplift of the Coast Ranges. Over the millennia the valley was filled by the sediments eroded from the Coast Ranges and the Sierra Nevada Mountains. In the late Cenozoic much of the Great Valley was occupied by shallow brackish and freshwater lakes.

LOCAL GEOLOGY

The project site is depicted on United States Geological Survey Topographic Herndon California Quadrangle (Figure 3.6-1). The project site is underlain by recent alluvial deposits of sandy loam probably of the Modesto Formation. These sediments are characterized by their concentrations of sand, silty, and clay. Sandy loam is relatively equal in proportion with respect to all three of these fractions.

SEISMICITY

The term seismicity refers to the location, frequency, magnitude and other characteristics of earthquakes. To understand the implications of seismic events, a discussion of faulting and seismic hazards is provided below.



TOPOGRAPHIC MAP

Figure 3.6 - 1

Faults

Faults form in rocks when stresses overcome the internal strength of the rock, resulting in a fracture. Large faults develop in response to large regional stresses operating over a long time, such as those stresses caused by the relative displacement between tectonic plates. According to the elastic rebound theory, these stresses build up in the earth's crust until enough stress has built up to exceed the strength along a fault and cause a brittle failure. The rapid slip between the two stuck plates or coherent blocks generates an earthquake. Following an earthquake, stress will build once again until the occurrence of another earthquake. The magnitude of slip is related to the maximum allowable stress that can be built up along a particular fault segment. The greatest buildup in stress due to the largest relative motion between tectonic plates or fault blocks over the longest period will generally produce the largest earthquakes. The distribution of these earthquakes is a study of much interest for both hazard prediction and the study of active deformation of the earth's crust. Deformation is a complex process and strain caused by tectonic forces is not only accommodated through faulting, but also by folding, uplift, and subsidence, which can be gradual or in direct response to earthquakes.

Faults are mapped to determine earthquake hazards, since they occur where earthquakes tend to recur. A historic plane of weakness is more likely to fail under stress than a previously unbroken block of crust. Faults are, therefore, a prime indicator of past seismic activity, and faults with recent activity are presumed to be the best candidates for future earthquakes. However, since slip is not always accommodated by faults that intersect the surface along traces, and since the orientation of stress and strain in the crust can shift, predicting the location of future earthquakes is complicated. Earthquakes sometimes occur in areas with previously undetected faults or along faults previously thought inactive.

There are a number of active and potentially-active faults adjacent to Fresno County. An "active fault" is defined by the California Geological Survey as one that has had surface displacement within the last 11,000 years. Faults with no evidence of surface displacement with the last 11,000 years (i.e., Holocene age) are not necessarily inactive. Potentially active faults have shown displacement within the last 1.6 million years (Quaternary age). "Inactive faults" show no evidence of movement in historic or recent geologic time, suggesting that the faults are dormant (Fresno County 2000). The active and potentially active faults nearest to the City of Fresno are summarized in Table 3.6-1.

The most notable earthquake in the region occurred in 1983 near Coalinga. This earthquake was associated with the Coast Range-Sierran Block Boundary zone (Great Valley Fault), which is thought to be made up of complex thrust fault systems and is considered a greater seismic threat than the San Andreas Fault.

Seismic Hazards

Seismic hazards pose a substantial danger to property and human safety and are present because of the risk of naturally occurring geologic events and processes affecting human development. Therefore, the hazard risk is equally influenced by the condition and location of human development as by the frequency and distribution of major geologic events. Seismic hazards

present in California include ground rupture along faults, strong seismic shaking, liquefaction, ground failure, and slope failure.

**Table 3.6-1
Fault Summary**

Fault	Distance from Project Site (miles/direction)	Fault Classification	Maximum Credible Earthquake (magnitude)¹	Maximum Intensity
Clovis	10 (Northeast)	Potentially Active	Unknown	Unknown
Great Valley Fault	35 (Southwest)	Active	7.0	I-II
Kern Canyon Fault	65 miles (Southeast)	Active	7.0	I-II
Nunez Fault	50 (Southwest)	Active	Unknown	I-II
Ortogonalita	60 (East)	Active	7	I-II
San Andreas	75 (South-Southwest)	Active	8	I-II
San Joaquin County	50 (West)	Potentially Active	6.5	Unknown
Sierra Nevada (Owens Valley Fault System)	90 (East)	Active	7.8	I-II
White Wolf	125 (South)	Active	7.8	Unknown

Source: California Geological Survey, Fault Activity Map of California, 2010

Source of Maximum Credible Earthquake: Caltrans, "A Technical Report to Accompany The Caltrans California Seismic Hazard Map, 1996"

Notes: Maximum Credible Earthquake (MCE) is defined as the largest earthquake that appears to be reasonably capable of occurring under the conditions of presently known "geological framework".

Fault Rupture

Fault rupture is a seismic hazard that affects structures sited above an active fault. The hazard from fault rupture is the movement of the ground surface along a fault during an earthquake. Typically, this movement takes place during the short time of an earthquake, but it also can occur slowly over many years in a process known as creep. Most structures and underground utilities cannot accommodate the surface displacements of several inches to several feet commonly associated with fault rupture or creep.

Ground Shaking

The severity of ground shaking depends on several variables such as earthquake magnitude, epicenter distance, local geology, thickness, and seismic wave-propagation properties of unconsolidated materials, groundwater conditions, and topographic setting. Ground shaking hazards are most pronounced in areas near faults or with unconsolidated alluvium.

The most common type of damage from ground shaking is structural damage to buildings, which can range from cosmetic cracks to total collapse. The overall level of structural damage from a nearby large earthquake would likely be moderate to heavy, depending on the characteristics of the earthquake, the type of ground, and the condition of the building. Besides damage to buildings, strong ground shaking can cause severe damage from falling objects or broken utility lines. Fire and explosions are also hazards associated with strong ground shaking.

While Richter magnitude provides a useful measure of comparison between earthquakes, the moment magnitude is more widely used for scientific comparison, since it accounts for the actual energy released by the earthquake. Actual damage is due to the propagation of seismic or ground waves as a result of the earthquake and the intensity of shaking is related to earthquake magnitude and distance as well as to the condition of underlying materials. Loose and soft materials tend to amplify long period vibrations, while hard rock can quickly attenuate them, causing little damage to overlying structures. For this reason, the Modified Mercalli Intensity (MMI) Scale provides a useful qualitative assessment of ground shaking. The MMI Scale is a 12-point scale of earthquake intensity that is based on local effects experienced by people, structures, and earth materials. Each succeeding step on the scale describes a progressively greater amount of damage at a given point of observation. The MMI Scale is shown in Table 3.6-2, along with relative ground velocity and acceleration.

**Table 3.6-2
Modified Mercalli Intensity Scale**

Richter Magnitude	Modified Mercalli Intensity	Effects	Average Peak Ground Velocity (centimeters/seconds)	Average Peak Acceleration
0.1–0.9	I	Not felt. Marginal and long-period effects of large earthquakes	—	—
1.0–2.9	II	Felt by only a few persons at rest, especially on upper floors of building. Delicately suspended objects may swing.	—	—
3.0–3.9	III	Felt quite noticeably in doors, especially on upper floors of building, but many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration like passing a truck. Duration estimated.	—	0.0035–0.007 g
4.0–4.5	IV	During the day, felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensations like heavy truck striking building. Standing cars rocked noticeably.	1–3	0.015–0.035 g
4.6–4.9	V	Felt by nearly everyone, many awakened. Some dishes, windows, broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	3–7	0.035–0.07 g

Richter Magnitude	Modified Mercalli Intensity	Effects	Average Peak Ground Velocity (centimeters/seconds)	Average Peak Acceleration
5.0–5.5	VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of falling plaster and damaged chimneys. Damage slight.	7–20	0.07–0.15 g
5.6–6.4	VII	Everyone runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well built, ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.	20–60	0.15–0.35 g
6.5–6.9	VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monument walls, and heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving in cars disturbed.	60–200	0.35–0.7 g
7.0–7.4	IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	200–500	0.7–1.2 g
7.5–7.9	X	Some well-built structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Railway lines bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.	≥ 500	>1.2 g
8.0–8.4	XI	Few, if any masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	—	—
≥ 8.5	XII	Total damage. Waves seen on ground. Lines of sight and level distorted. Objects thrown into the air.	—	—

Source: United States Geologic Survey.

Ground Failure

Ground failure includes liquefaction and the liquefaction-induced phenomena of lateral spreading and lurching.

Liquefaction is a process by which sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. The process of liquefaction involves seismic waves passing through saturated granular layers, distorting the granular structure and causing the particles to collapse. This causes the granular layer to behave temporarily as a viscous liquid rather than a solid, resulting in liquefaction.

Liquefaction can cause the soil beneath a structure to lose strength, which may result in the loss of foundation-bearing capacity, which could cause a structure to settle or tip. Liquefaction can also result in the settlement of large areas due to the densification of the liquefied deposit. Where structures are located within liquefied deposits, the liquefaction can result in the structure to rise as a result of buoyancy.

Lateral spreading is lateral ground movement, with some vertical component, as a result of liquefaction. In effect, the soil rides on top of the liquefied layer. Lateral spreading can occur on relatively flat sites with slopes less than 2 percent, under certain circumstances, and can cause ground cracking and settlement.

Lurching is the movement of the ground surface toward an open face when the soil liquefies. An open face could be a graded slope, stream bank, canal face, gully, or other similar feature.

Landslides and Slope Failure

Landslides and other slope failures form in response to the long-term geologic cycle of uplift, mass wasting, and slope disturbance. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides, and rock fall. These processes are commonly triggered by intense precipitation. Seismic activity can also trigger landslides and rockfalls.

Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil. Geologists classify landslides into several different types that reflect differences in the type of material and type of movement. The four most common types of landslides are translational, rotational, earth flow, and rock fall. Debris flows and earth flows are another type of landslide that are characterized by soil and rock particles in suspension with water and which often move with considerable speed. Debris flows often refer to flows that contain coarser soil and rock materials while earth flows frequently refer to slides that are predominantly finer materials. Mudslide is a term that appears in non-technical literature to describe a variety of shallow, rapidly moving earth flows.

PROJECT SITE CONDITIONS

Soils

Information from the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) (1971), Fresno County, California, Eastern Fresno Area, Soil Survey and the USDA Web Soil Survey was reviewed to identify soil types present in the project vicinity. The Soil Survey identified six soil types within the project vicinity (reference Table 3.6-3 and Figure 3.2-2 of this Draft EIR). The soil properties are summarized in Table 3.6-3.

**Table 3.6-3
Soil Descriptions for the Project Site**

Soil Type	Map Symbol	Hydrologic Rating	Drainage Class	Erosion K Factor	Percent Clay	Linear Extensibility (Percent)	pH	Approximate Area (acres)
Exeter sandy loam	Es	C	Well drained	0.32	17	1.5	7.0	402
Exeter sandy loam, shallow	Et	C	Well drained	0.32	16.6	1.5	6.9	0.7
Hanford sandy loam, benches	Hd	B	Well drained	0.32	12.5	1.5	6.7	1.5
San Joaquin sandy loam, 0 to 3 percent slopes	ScA	D	Moderately well drained	0.32	16.3	1.5	5.8	42.4
San Joaquin sandy loam, shallow, 0 to 3 percent slopes	SdA	D	Moderately well drained	0.32	18.0	2.2	5.3	8.4
San Joaquin loam, 0 to 3 percent slopes	SeA	D	Moderately well drained	0.37	17.7	1.5	5.8	5.

Source: USDA, NRCS, Web Soil Survey Website, Accessed November 18, 2011

Hydrologic Rating C - Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Hydrologic Rating D - Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

K-Factor = Measurement of soil erodibility: values less than 0.25 indicate low erosion potential; values of 0.25 to 0.40 indicate moderate erosion potential; values ranging from 0.40 to 0.69 indicate high erosion potential.

Linear Extensibility = Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

The presence of high acidity, pH of 5.5 or less, in soil or water is considered a corrosive condition

A majority of the project site is underlain by Exeter sandy loam. Exeter sandy loam is a well drained soil with moderate erosion potential, low shrink-swell potential, and low corrosion potential.

Groundwater

Available groundwater monitoring data from the California Department of Water Resources indicates that the groundwater table in the vicinity of the project site is more than 100 feet below ground surface (bgs).

Seismic Hazards

The 1999 Uniform Building Code (UBC) classified the City of Fresno as Seismic Zone III. The Zone III designation indicated the area was subject to strong ground motions from earthquakes. The UBC classification was replaced with seismic design categories as amended by the California Building Code in 2010 and refers to a classification assigned to a structure based on its occupancy category and the severity of the design earthquake ground motion at the site. The City of Fresno is divided between seismic design categories C and D. Seismic Design Category C corresponds to buildings of Occupancy Groups IV (Hospitals, Police Stations Emergency control centers etc) where expected ground shaking will be moderate and buildings of occupancy categories I, II, and III where more severe ground shaking will occur. Seismic Design Category D corresponds to buildings and structures in areas expected to experience severe and destructive ground shaking, but not located close to a major fault.

IMPACT EVALUATION CRITERIA

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with geology and soils if the project would:

- a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:*
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.*

- ii. *Strong seismic ground shaking.*
 - iii. *Seismic-related ground failure, including liquefaction.*
 - iv. *Landslides*
- b) *Result in substantial soil erosion or the loss of topsoil.*
 - c) *Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*
 - d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.*
 - e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.*

Although the Initial Study (reference Appendix A) concluded that all potential geology and soils impacts would be less than significant, further detail regarding some of these potential impacts are provided below.

3.6.2 IMPACTS ANALYSIS

Impact #3.6.1 – Exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, ground failure, or landslides.

This impact analysis evaluates the proposed project’s potential to expose persons or structures to seismic hazards (fault rupture, ground shaking, ground failure, and landsliding). Each of these hazards and their potential environmental impacts are discussed below.

Fault Rupture

The project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. There are no known major or active faults crossing the site or in close proximity to the site. The nearest known active regional fault is the Great Valley Fault Zone, approximately 35 miles southwest of the project site. The San Andreas Fault is approximately 75 miles southwest of the project site. The Clovis Fault is the closest potentially active fault to the project site and is located 10 miles east of the site. Since no known surface expression of active faults is believed to cross the site, fault rupture through the site is not anticipated. No impacts would occur.

Strong Ground Shaking

The California Geological Survey maintains a web-based computer model that estimates probabilistic seismic ground motions for any location with California. The computer model estimates the “Design Basis Earthquake” ground motion, which is defined as the peak horizontal

ground acceleration with a 10-percent chance of exceedance in 50 years (475-year return period). For an alluvium soil type, the project site's estimated peak ground acceleration is approximately 0.175g or 0.175 times the acceleration of gravity.

The project site is located in the City of Fresno, which utilizes Seismic Design Categories C and D. The proposed project would consist of occupancy groups in Category II - most buildings and structures of ordinary occupancy (e.g., residential, commercial, and industrial buildings), thus requiring design in accord with Category C.

Although the City of Fresno is located in an area of low seismic activity, the faults and fault systems that lie along the eastern and western boundaries of Fresno County, as well as other regional faults, have the potential to produce high-magnitude earthquakes throughout the County. The City of Fresno is located on alluvial deposits, which tend to experience greater ground shaking intensities than areas located on hard rock. However, the distance to the faults that are the expected sources of the shaking would be sufficiently great that the effects should be minimal.

Mitigation Measure #3.6.1 requires the applicant to prepare and submit a design-level geotechnical study that complies with all applicable seismic design standards of the California Building Standards Code. Seismic design standards account for peak ground acceleration, soil profile, and other site conditions and they establish corresponding design standards intended to protect public safety and minimize property damage. This measure would reduce potential ground shaking impacts to a level of less than significant.

Seismic Related Ground Failure (including Liquefaction)

The potential for seismic related ground failure (liquefaction, lateral spreading, and lurching) occurring on the project site is minimal because of the absence of high groundwater levels and saturated loose granular soil on the project site. In addition, the intensity of ground shaking from a large, distant earthquake is expected to be relatively low on the project site and, therefore, would not be severe enough to induce liquefaction onsite. These characteristics indicate that the project site has a low susceptibility to liquefaction and liquefaction-related phenomena. Regardless, Mitigation Measure #3.6.1 requires the applicant to prepare and submit a design-level geotechnical study that complies with all seismic design standards of the California Building Standards Code. This measure provides certainty that the proposed project would not be at risk of ground failure hazard. This measure would reduce any risk of significant impact from seismic related ground failure to less than significant.

Landsliding

There are no substantial slopes on or near the project site. Therefore, the opportunity for slope failure in response to the long-term geologic cycle of uplift, mass wasting, and difference of slopes is unlikely. However, the project does propose to construct a 55-acre lake that would have a depth of 10 feet; this would alter the geomorphology of the project site and create a potential landslide hazard. This would be a potentially significant impact. Mitigation Measure #3.6.1 requires the applicant to prepare and submit a design-level geotechnical study that

complies with all applicable seismic design standards of the California Building Standards Code; this would ensure that design features such as the proposed lake would not present a geological hazard. With implementation of this measure, impacts would be reduced to a less than significant level.

Conclusion: The potential seismic-related impacts as a result of the project are *potentially significant*.

Mitigation Measure #3.6.1: Prior to issuance of grading permits for the Westlake development, the applicant shall submit a design-level geotechnical study to the City of Fresno for review and approval. A licensed professional engineer shall prepare the plans, including those that pertain to soil engineering and structural foundations. The approved plans shall be incorporated into the proposed project. All onsite soil engineering activities shall be conducted under the supervision of a licensed Geotechnical Engineer or Certified Engineering Geologist.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.6.1 would reduce impacts to a *less than significant* level.

Impact #3.6.2 – Result in substantial soil erosion or the loss of topsoil.

Construction activities associated with the proposed project would involve vegetation removal, grading, and significant excavation activities that could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the project site. Soil erosion or loss of topsoil may occur in areas where soil is disturbed. The construction of the 55-acre lake feature is estimated to result in the removal of about 890,000 cubic yards of soil. The majority of soils consist of Exeter sandy loam, which have a moderate soil erosion potential. Within the valley, erosion is generally not a problem except for areas containing Rossi soil near the Fresno Slough near Mendota, California. Severe erosion potential has been identified along the San Joaquin River Bluff northeast of the site (Fresno County 2000).

The City of Fresno grading and erosion control ordinance (Fresno Municipal Code Section 12-1023 – Grading and Erosion Control) stipulates that approved parcel maps shall be conditioned on compliance with the requirements for grading and erosion control, including the prevention of sedimentation or damage to off-site property, set forth in Appendix Chapter 70 of the Uniform Building Code, 1973 Edition, Volume I, as adopted and amended by the city as part of the Code.

The National Pollutant Discharge Elimination System (NPDES) stormwater permitting programs regulate stormwater quality from construction sites, which includes erosion and sedimentation. Under the NPDES permitting program, the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) are required for construction activities that would disturb an area of 1 acre or more. The SWPPP must identify potential sources of erosion or sedimentation that may be reasonably expected to affect the quality of stormwater discharges as well as identify and implement Best Management Practices (BMPs) that ensure the reduction of these pollutants during stormwater discharges. Typical BMPs intended to control erosion include sand bags, detention basins, silt fencing, storm drain inlet protection, street sweeping, stabilizing stockpiled soils, post-construction stabilization or revegetation, and monitoring of water bodies.

Given the significant amount of earthwork and the change in the project sites geomorphology, the impacts from erosion are potentially significant, however, compliance with the City of Fresno's grading and erosion control ordinance as well as the implementation of an SWPPP for NPDES compliance would reduce this impact to a less than significant level.

Conclusion: Development of the proposed project will not create substantial soil erosion or loss of topsoil; therefore the potential impact will be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.6.3 – Result in potential hazards due to construction on unstable soils.

As part of the proposed project, the project site would be graded and the area underlying the buildings and lake feature would be soil engineered in accordance with the recommendations of a design-level geotechnical study and the requirements of the California Building Standards Code. This requirement is established by Mitigation Measure #3.6.1. This process would involve the removal of unsuitable soils, the placement of engineered fill, and compaction to ensure that the proposed structures are adequately supported. These practices would ensure that the proposed project is located on stable soils and geologic units and would not be susceptible to settlement or ground failure. Therefore, the implementation of Mitigation Measure #3.6.1 would reduce potentially significant impacts to a less than significant level.

Conclusion: The proposed project may be located on unstable soil, which would result in a *potentially significant* impact.

Mitigation Measures: Implement Mitigation Measure #3.6.1.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.6.1 would reduce impacts to a *less than significant* level.

Impact #3.6.4 – Result in potential hazards due to construction on expansive soils.

According to the Fresno County General Plan Background Report (Figure 7-1, Expansive Soils), expansive soils are not present in the project vicinity and there is no evidence to suggest that soils located within the project site are subject to lateral spreading. The soils on the project site have low clay content (less than 20 percent) and their linear extensibility is less than three percent. The shrink-swell potential of soil is considered low if the soil has a linear extensibility of less than three percent. This condition precludes the possibility of persons or structures being exposed to hazards associated with expansive soils. Impacts would be less than significant.

Conclusion: The proposed project will not be located on expansive soils, therefore, the potential impact will be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.6.5 – 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.

The project will tie into the City’s wastewater system (See Section 3.15 – Utilities) and therefore there are no septic tanks or alternative waste water systems necessary for the project. As no septic or wastewater disposal systems would be constructed with the project, there is no potential for adverse impact in this regard.

Conclusion: There is *no impact*.

Mitigation Measures: No mitigation measures are required.

3.7 Hazards and Hazardous Materials

INTRODUCTION

This section evaluates potential impacts related to hazards and hazardous substances and/or waste contamination resulting from development of the proposed project. A comment letter was received during the NOP review period from the Fresno Mosquito and Vector Control District regarding the proposed manmade lake and steps to ensure that the lake does not become a breeding ground for mosquito's and other vectors. This issue is discussed further in this section.

The initial study identified that the project would have no impacts associated with hazards related to airports or being in the vicinity of airstrips. The initial study also found there would be impacts less than significant from the project caused by hazards related to wildfires or interference with adopted emergency response plans. These impacts, therefore, are not addressed in this EIR.

3.7.1 REGULATORY AND PHYSICAL SETTING

Regulatory

DEFINITION OF HAZARDOUS MATERIALS

A substance may be considered hazardous due to a number of criteria, including toxicity, ignitability, corrosivity, or reactivity. The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

Once a hazardous material becomes ready for discard, it becomes a hazardous waste. A hazardous waste, for the purpose of this report, is any hazardous material that is abandoned, discarded, or (planned to be) recycled. In addition, hazardous wastes may occasionally be generated by actions that change the composition of previously non-hazardous materials. The same criteria (toxicity, ignitability, corrosivity, or reactivity) that render a material hazardous make waste hazardous.

The use of hazardous materials and disposal of hazardous waste are subject to numerous laws and regulations at all levels of government. Below is a brief overview of federal, state, and local laws and regulations.

FEDERAL

Resource Conservation and Recovery Act 42 U.S.C. s/s 6901 et seq. (1976)

Under the Resource Conservation and Recovery Act (RCRA), individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as the federal RCRA requirements. The U.S. Environmental Protection Agency (EPA) must approve state programs intended to implement federal regulations. In California, the

California Environmental Protection Agency (Cal EPA) and the Department of Toxic Substances Control (DTSC), a department within Cal EPA, regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. EPA approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. DTSC has primary hazardous material regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the HWCL.

The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe the management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in ordinary landfills. A hazardous waste generator must, for a minimum of three years, retain hazardous waste manifests. Hazardous waste manifests provide a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with the state. The generator must match copies of hazardous waste manifests with receipts from treatment, storage, and disposal facilities.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Comprehensive Environmental Response, Compensation, and Liability Act and associated Superfund Amendments provide EPA with the authority to identify hazardous sites, to require site remediation, and to recover the costs of site remediation from polluters. California has enacted similar laws intended to supplement the federal program. The DTSC is primarily responsible for implementing California's Superfund Law.

Toxic Substances Control Act

The Toxic Substances Control Act requires the control of new and existing chemical substances that may pose an unreasonable risk to public health or the environment. The legislation establishes provisions for testing of chemical substances, regulation of hazardous chemical substances, manufacture and processing notices, management of imminent hazards, and reporting and recordkeeping requirements.

Federal Insecticide, Fungicide and Rodenticide Act

The federal Insecticide, Fungicide, and Rodenticide Act establishes procedures for regulating the use and sale of pesticides to protect human health and the environment, and it provides federal control of pesticide distribution, sale, and use. The legislation governs the registration and labeling of pesticides and enforcement against banned and unregistered products.

U.S. Department of Transportation

The Hazardous Materials Transportation Act of 1974, as amended, is the basic statute regulating hazardous materials transportation in the United States. This law gives the U.S. Department of Transportation and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

State agencies are authorized to designate highways for the transport of hazardous materials. Where highways have not been designated, hazardous materials must be transported on routes that do not go through or near heavily populated areas.

STATE

California Health and Safety Code

The California Environmental Protection Agency has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Sections 25531, et seq. incorporate the requirements of Superfund Amendments and Reauthorization Act and the Clean Air Act as they pertain to hazardous materials. Health and Safety Code Section 25534 directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP). The RMP must be submitted to the appropriate local authorities, the designated local administering agency, and the EPA for review and approval.

California Code of Regulations, Title 22, §66261.20-24

Soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed of as hazardous waste when excavated. The California Code of Regulations, Title 22, §66261.20-24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste.

California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act)

The Business Plan Act requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored onsite;
- An emergency response plan; and
- A safety and emergency response training program for new employees with annual refresher course.

Hazardous Materials Transportation Regulations (26 CCR)

The State of California has adopted U.S. Department of Transportation (DOT) regulations for the intrastate movement of hazardous materials. State regulations are contained in 26 CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California.

The two State agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

California Vehicle Code §32000

Common carriers are licensed by the CHP, pursuant to California Vehicle Code §32000. This section requires the licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards.

California Emergency Services Act

Pursuant to the California Emergency Services Act, the state has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including Cal EPA, CHP, the California Department of Fish and Game (CDFG), the Regional Water Quality Control Boards (RWQCB), the local Air Pollution Control Districts, and local agencies.

California Accidental Release Prevention Program

California Accidental Release Prevention Program (CalARP) regulations became effective January 1, 1997, replacing the California Risk Management and Prevention Program. CalARP was created to prevent the accidental release of regulated substances. It covers businesses that store or handle certain volumes of regulated substances at their facilities. A list of regulated substances is found in §2770.5 of the CalARP regulations. If a business has more than the listed threshold quantity of a substance, an accidental release prevention program must be implemented and a risk management plan may be required. The California Office of Emergency Services is responsible for implementing the provisions of CalARP.

Protection of Underground Infrastructure [California Government Code, Section 4216]

Requires that an excavator must contact a regional notification center (i.e., Underground Service Alert [URS]) at least 2 days prior to excavation of any subsurface installations. An Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of excavation. The construction contractor is required to probe and expose the underground facilities by hand prior to using power equipment.

CEQA and the Cortese List

The Cortese List (Hazardous Waste and Substances Site List) is a planning document used by the state, local agencies, and developers to comply with CEQA requirements to consider

Government Code Section 5962.5 in evaluating proposed development projects. Section 65962.5 states that:

The list should contain all hazardous waste facilities subject to corrective action , all hazardous waste property or border zone property designations, all information received on hazardous waste disposals on public land, all hazardous substance release sites listed pursuant to Government Code Section 25356, and all sites that were included in the former Abandonment Site Assessment Program.

California Environmental Protection Agency (Cal EPA)

Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to develop a Cortese List at least annually. The Department of Toxic Substances Control is responsible for a portion of the information on the list, and other local and state government agencies are required to provide additional information. Cal EPA operates the Air Resources Board, the Department of Pesticide Regulation, Department of Toxic Substances Control, Integrated Waste Management Board, Office of Environmental Health Hazard Assessment, and the State Water Resources Control Board. The function of each of these six offices is discussed below:

California Air Resources Board (ARB): To promote and protect public health, welfare and ecological resources through the effective and efficient reduction of air pollutants in recognition and consideration of the effects on the economy of the State.

Department of Pesticide Regulation (DPR): Regulates all aspects of pesticide sales and use to protect the public health and the environment for the purpose of evaluating and mitigating impacts of pesticide use, maintaining the safety of the pesticide workplace, ensuring product effectiveness, and encouraging the development and use of reduced risk pest control practices.

Department of Toxic Substances Control (DTSC): The Department's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention. DTSC protects residents from exposures to hazardous wastes. DTSC operates programs to:

- Deal with the aftermath of improper hazardous waste management by overseeing site cleanups;
- Prevent releases of hazardous waste by ensuring that those who generate, handle, transport, store and dispose of wastes do so properly;
- Take enforcement actions against those who fail to manage hazardous wastes appropriately;
- Explore and promote means of preventing pollution, and encourage reuse and recycling; and
- Evaluate soil, water and air samples taken at sites, and develop new analytical methods.

Department of Resources Recycling and Recovery (CalRecycle): Protects the public health and safety and the environment through waste prevention, waste diversion, and safe waste processing and disposal. The Integrated Waste Management Board (IWMB) is responsible for managing California's solid waste stream. The Board is helping California divert its waste from landfills by:

- Developing waste reduction programs;
- Providing public education and outreach;
- Assisting local governments and businesses;
- Fostering market development for recyclable materials;
- Encouraging used oil recycling;
- Regulating waste management facilities; and
- Cleaning up abandoned and illegal dump sites.

Office of Environmental Health Hazard Assessment (OEHHA): OEHHA is responsible for developing and providing risk managers in state and local government agencies with toxicological and medical information relevant to decisions involving public health. OEHHA also works with federal agencies, the scientific community, industry and the general public on issues of environmental as well as public health. Specific examples of OEHHA responsibilities that directly relate to Fresno include:

Developing health-protective exposure standards for air, water, and land to recommend to regulatory agencies, including ambient air quality standards for the Air Resources Board and drinking water chemical contaminant standards for the Department of Health Services.

Assessing health risks to the public from air pollution, pesticide and other chemical contamination of food, seafood, drinking water, and consumer products.

Providing guidance to local health departments, environmental departments, and other agencies with specific public health problems, including appropriate actions to take in emergencies that may involve chemicals.

State Water Resources Control Board (SWRCB): Preserves and enhances the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. The SWRCB maintains the Leaking Underground Storage Tank Information System (LUTIS) Database, which contains information on registered leaking underground storage tanks (LUSTs) in the State.

California Occupational Safety and Health Agency (CalOSHA)

CalOSHA sets and enforces standards that insure safe and healthy working conditions for California's workers. The Division of Occupational Safety & Health is charged with the jurisdiction and supervision over workplaces in California that are not under federal jurisdiction. CalOSHA regulates issues involving unsafe workplace conditions, worker exposure to chemicals, illness due to workplace exposure, or improper training.

State Regulatory Programs Division (SRPD)

The SRPD oversees the technical implementation of the State's Unified Program; a consolidation of six environmental programs at the local level, and conducts reviews of Unified Program agencies to ensure their programs are consistent statewide, conform to standards, and deliver quality environmental protection at the local level. SRPD also carries out the State's hazardous waste recycling and resource recovery program designed to facilitate recycling and reuse of hazardous waste. SRPD conducts a corrective action oversight program that assures any releases of hazardous constituents at generator facilities that conduct onsite treatment of hazardous waste are safely and effectively remediated, and oversees the hazardous waste generator and onsite waste treatment surveillance and enforcement program carried out by local Unified Programs.

California Department of Transportation (Caltrans) and California Highway Patrol

The California Vehicle Code Section 31303 requires that hazardous materials be transported via routes with the least overall travel time, and prohibits the transportation of hazardous materials through residential neighborhoods. In California, the California Highway Patrol (CHP) is authorized to designate and enforce route restrictions for the transportation of hazardous materials. To operate in California, all hazardous waste transporters must be registered with the Department of Toxic Substances Control (DTSC). Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations, the California State Fire Marshal Regulations, and the United States Department of Transportation Regulations. In addition, hazardous waste transporters must comply with Division 20, Chapter 6.5, Article 6 and 13 of the California Health and Safety Code, and the Title 22, Division 4.5, Chapter 13 of the California Code of Regulations, both of which are administered by DTSC.

Central Valley Regional Water Quality Control Board (RWQCB)

There are nine Regional Water Quality Control Boards (RWQCBs) throughout the State. The Central Valley RWQCB has jurisdiction over the City of Fresno. Individual RWQCBs function as the lead agencies responsible for identifying, monitoring, and cleaning up LUSTs. Storage of hazardous materials in USTs is regulated by the State Water Resources Control Board (SWRCB), which oversees the nine RWQCBs.

LOCAL

Fresno County

A Certified Unified Program Agency (CUPA) is an agency of a County or City that administers several state programs regulating hazardous materials and hazardous wastes. The Fresno County Department of Community Health – Environmental Health Division (DCH) is the CUPA within Fresno County. The DCH administers the following programs:

- Hazardous Materials Business Plan Program. This program applies to businesses that handle hazardous materials in amounts of at least 500 pounds of a solid, 55 gallons of liquid, or 200 cubic feet of gas. A Business Plan includes the types and amounts of hazardous materials used; risks involved with use of the materials; and emergency response plans and information;
- California Accidental Release Prevention Program (CalARP), a combination of federal and state programs for the prevention of accidental release of regulated toxic and flammable substances;
- Underground Storage Tanks Program;
- Aboveground Storage Tanks Program;
- Hazardous Waste Program; and
- Hazardous Waste Treatment/Tiered Permit Program, which regulates onsite treatment of hazardous wastes.

Fresno County Shooting Zone

Pursuant to County Ordinance No. 10.44.040, the discharge of firearms, arrows, or pellet guns is prohibited within one-quarter mile of any incorporated City of Fresno County. In the Fresno-Clovis metropolitan area, additional areas beyond this limit may be included to create a logical boundary that is easily recognizable in the field.

The Westlake development is located within the No Shooting Zone.

Fresno Mosquito and Vector Control District

The Fresno Mosquito and Vector Control District is located within the City of Kerman, a portion of the City of Fresno, and the surrounding unincorporated area of Fresno County. The District provides mosquito and disease surveillance, mosquito suppression and control, mosquito source reduction and public education for abatement of mosquitoes and vector-borne disease. The District encompasses approximately 281 square miles.

CITY OF FRESNO GENERAL PLAN

The following City of Fresno General Plan objectives and policies have been adopted relative to the regulation and management of hazards and hazardous materials:

Public Facilities Element

E-30-a. Policy Support programs and new techniques of solid waste disposal such as recycling, composting, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.

Safety Element

I-2-a. Policy: Maintain and enforce the latest adopted California Building Code and Uniform Fire Code standards to ensure safe processing and storage of hazardous materials.

I-2-b. Policy: Maintain a close liaison with the Fresno County Environmental Health Department, Cal-EPA Division of Toxics, and the State Office of Emergency Services to assist in developing and maintaining hazardous material business plans, inventory statements, risk management prevention plans, and contingency/emergency response action plans.

Objective I-6: Reduce and control the adverse effects of hazardous materials on the public's health, safety, and welfare so as to promote the public health and welfare of local residents and the productive capacity of industry.

I-6-a. Policy Hazardous materials will be defined as those that, because of their quantity, concentration, physical or chemical characteristics, pose a significant potential hazards to human health, safety, or the environment. Specific federal, state, and local definitions and listings of hazardous materials will be used by the City of Fresno.

I-6-b. Policy: The city will coordinate and cooperate with other local, state, and federal agencies with expertise and responsibility for hazardous materials.

I-6-c. Policy Approval of annexations, and development projects (including issuance of building permits) will be subject to state and federal requirements for adequate assessment and mitigation measures on listed hazardous material sites and for business activities that involve more than threshold amounts of hazardous materials.

I-6-d. Policy As may be appropriate, the city shall require and evaluate the results of "Level I" and further site investigations before approving development entitlements on, or annexation of, property.

- I-6-e. Policy Through the environmental review process for land use plans and other development projects, the city will continue to identify and assess the health- and safety-related implications of storage, use, and disposal of hazardous materials.*
- I-6-f. Policy: All commercial and industrial special permits will be conditioned upon proper containment, use, safeguarding, and disposal of hazardous materials.*
- I-6-g. Policy The city will continue to prevent, assess, and seek remediation for, any hazardous material contamination within, and affecting, its planning area.*
- I-6-h. Policy The city will continue to aid in the identification and mapping of waste disposal sites (including abandoned wastes), and to assist in the survey of the kinds, amounts, locations, etc., of hazardous wastes.*
- I-6-i. Policy The city will utilize conditions for development projects, will adopt and enforce ordinances, and will use its police powers for land use regulation, code enforcement and nuisance abatement in order to prohibit the inappropriate use of, and/or discharge of, toxic and hazardous materials to the atmosphere, to wastewater collection and storm drainage systems, to groundwater, and to surface bodies of water, when such use or discharge threatens public health, safety, or general welfare.*
- I-6-j. Policy Disaster and emergency response preparedness and planning for the city will include procedures and policies appropriate to hazardous materials.*
- I-6-k. Policy The city will continue to support and assist with special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.*
- I-6-l. Policy The city will continue to assist in providing information to the public on hazardous materials.*

Reference Section 3.12 of this Draft EIR for applicable City of Fresno General Plan policies with regard to fire protection.

FIRE PROTECTION AND HAZARDOUS MATERIALS RESPONSE TEAM

The City of Fresno Fire Department will provide fire protection and emergency medical services to the proposed project site upon annexation. Station No. 16 is two miles from the project site on Polk between Clinton and Shields Avenues. The proposed project site is not located in a designated Fire Hazard Severity Zone in a State Responsibility Area.

The City of Fresno Fire Department maintains a 27-person Hazardous Materials Response (HMR) Team, that responds to incidents involving chemicals and other potentially hazardous substances. The HMR team has also been trained to respond to potential terrorist threats involving biological or nuclear weapons.

In the event of an incident, the HMR Team is responsible for the identification, containment and disposal of any hazardous materials. The HMR Team is equipped for entry into contaminated areas, air sampling and field identification of harmful substances, including biological agents such as anthrax.

The HMR Team is also equipped to decontaminate those who may have come in contact with hazardous substances. Should a larger-scale incident occur, the Fresno Fire Departments Mass Decontamination Unit (MDU) would be employed; it has the ability to decontaminate up to 450 people each hour.

CITY OF FRESNO GUIDELINES FOR PONDING BASIN/POND CONSTRUCTION AND MANAGEMENT TO CONTROL MOSQUITO BREEDING

The City of Fresno has concluded that immature mosquitoes develop in shallow water habitats and that Fresno has enough year-round urban runoff from sprinklers, car washing, and pool drainage to keep water in drainage basins even in the summer--when mosquitoes breed the fastest. The City has determined that the design and management of ponding basins and ponds is of critical importance for mosquito control. Pursuant to City General Plan Policy G-1B-b, the City shall incorporate its “Guidelines for Ponding Basin / Pond Construction and Management to Control Mosquito Breeding” as conditions of approval on any project which utilizes an on-site stormwater basin.

Physical Setting (Existing)

Hazardous materials are those which, by their nature (chemical, physical, or biological properties), have the potential to cause death or serious illness during use/consumption, processing, storage, transport, or when improperly disposed of. These materials may be flammable, explosive, corrosive, chemically reactive, toxic, carcinogenic, radioactive, infectious, or may harm people through skin contact, inhalation, or pharmaceutical action. These risks have generated a great deal of regulation at federal, state, and local levels. Due to this comprehensive definition, almost all land uses may involve these materials. Projects where these materials are stored and used require identification and special development standards. Sites previously contaminated by these materials are required to be identified and cleaned. Transport of these materials on local, regional, state, and federal roadways is also regulated. The 2025 City of Fresno General Plan Safety Element provides policies intended to keep the city in compliance with existing regulations, and to preserve public health and life safety. A Phase I Environmental Assessment was prepared, as discussed below, to determine the presence of or potential presence of hazardous materials existing on the site from current and former land uses.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

A Phase I Environmental Site Assessment (ESA) was prepared by Kleinfelder (December 14, 2007, amended December 2011) to determine the presence or absence of hazardous materials on the project site (see Appendix F). The findings of the Phase I ESA are summarized below.

Records Search

Kleinfelder performed a search of federal, state, and local databases listing contaminated sites, Brownfield sites (a development site having the presence or potential presence of a hazardous substance, pollutant, or contaminant), Superfund sites (abandoned hazardous waste sites), underground storage tank (UST) sites, waste storage sites, toxic chemical sites, contaminated well sites, and other sites containing hazardous materials. No record of Underground Storage Tanks (USTs), hazardous materials handling, storage, or disposal, were on file for the proposed project site with the regulatory agencies contacted.

Several sites were noted in the general vicinity of the project site. These sites are summarized below:

Golden State Ranches/Lidell Property: This facility is located at 3700 N. Grantland Avenue, which is adjacent to and east of the project site. According to the Fresno County DCH records, one approximately 4,000-gallon gasoline UST was removed from the property in 1993. Analysis of a soil sample collected from beneath the former UST location did not reveal the presence of gasoline constituents. Based on this information, the DCH issued a closure letter dated April 4, 1993, requiring no further assessment. A Hazardous Materials Business Plan for this facility lists three ASTs (500-gallon gasoline AST, 8,000-gallon diesel AST, and 1,000-gallon road oil AST) at this property. ASTs reported to be present at this property were not visible from Grantland Avenue. Hazardous materials handled at this property are not anticipated to pose an adverse impact to the project site due to the limited amount of hazardous materials stored.

North Central Fire District Fire Station: This facility is located at 7285 West Shields Avenue, which is adjacent to the south of the project site. According to information provided by Environmental Data Resources, three approximately 550-gallon USTs were formerly located at this station. The presence of the contamination was not observed during the removal of these former USTs. The removal of these former USTs has been granted closure status by the DCH, with no further assessment or remedial action required. According to a Hazardous Materials Plan on file with the DCH, two approximately 550-gallon, double walled ASTs containing diesel fuel and gasoline, as well as reportable quantities of waste oil, welding gases, and compressed breathing oxygen are handled at this property. The presences of these substances at the fire station property is not anticipated to pose an adverse impact to the project site due to the limited quantities of substances handled, and the storage of fuels within double-walled containers.

Vacant Field: This site is located at 2937 North Grantland Avenue, adjacent to and south of the project site. One approximately 10,000-gallon gasoline UST was removed from this Central Unified School District proposed school property. The presence of contamination was not observed during the removal of the former UST. The removal of the former fuel UST has been granted closure status by the DCH, with no further assessment or remedial action required. This property is not anticipated to pose an adverse impact to the project site based upon the lack of documented contamination.

Lamanuzzi and Pantaleo: This facility is located adjacent and east of the project site at 3636 North Grantland Avenue. The facility is registered as an extremely hazardous substance handler,

industrial waste discharger, large hazardous materials handler, conditionally exempt small quantity hazardous waste generator, and carbon monoxide emissions facility. According to a Hazardous Materials Business Plan on file with the DCH, the facility handles reportable quantities of sulfur dioxide, welding gases, sodium hydroxide, aluminum phosphide, lubricants, gasoline (in an 11,000-gallon AST), and diesel (in a 6,000-gallon AST). Wastewater generated by produce washing and rinsing at this processing/dehydrator facility is released to discharge fields at this property. According to the Waste Discharge Requirement (WDR) on file with the Regional Water Quality Control Board (RWQCB) for this facility, wastewater generated at the facility contained elevated concentration of dissolved solids. According to submitted laboratory reports and RWQCB staff notes, annual monitoring of wastewater effluent, as well as analysis of soil samples collected from the wastewater discharge field, have not indicated an adverse impact to groundwater underlying this facility.

The facility is also regulated by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The facility is permitted to operate a total of 90 days per year for nine hours per day. The California Air Pollution Control Officers' Association (CAPCOA) risk prioritization guidelines are used to prioritize any increase in Hazardous Air Pollutants (HAPs) prior to emissions modeling. No further evaluation is needed if the resulting prioritization score is less than 1.0. The SJVAPCD's performed a screening level health risk assessment (HRA) for the facility and calculated the facility's Prioritization Score to be 0.0023.

Based upon the above, activities at this site are not expected to cause adverse impacts to the project site.

Aerial Photographs

Aerial photographs of the project area dating to 1937 were obtained as part of the Phase I ESA process. The changes that occur to the project site and surroundings are summarized below:

The 1937, 1950, 1957, and 1967 aerial photographs show a majority of the site planted in orchards. A small structure is located adjacent to Grantland Avenue, along the southeast boundary of the site. No additional structures are visible at the site. Ashland and Dakota Avenues extend through central portions of the site. Irrigation ditches extend through the site. Surrounding properties include orchards, field crops, and rural residences, with an apparent dairy located adjacent to and east of the site across Grantland Avenue. A farm yard area with multiple structures is noted north of the site.

The 1973, 1979, and 1992 aerial photographs show a majority of the site planted in orchards. Although a cleared area is visible at the former location of a small structure near the southeast boundary of the site, no structures appear to be present in this area. A portion of the orchards near the northwest corner of the site have been cleared by the time of the 1992 aerial photograph. Surrounding properties include orchards, field crops, a small dairy operation, farm yard area, and rural residences. Increasing amounts of rural residential structures are visible on later photographs.

The orchards in the northern portion of the site appear to have been partially removed by the time of the 1999 aerial photograph. The small structure previously noted along the southeastern boundary of the site appears to have been removed. Conditions on the remaining site and at surrounding properties appear to be relatively similar to those noted on the 1992 aerial photograph.

The 2002 aerial photographs show remnants of the former orchards at the site, although many of the trees appear to have been removed. Conditions on surrounding properties appear relatively similar to those noted on the 1999 aerial photograph.

Site Reconnaissance

At the time of the survey, the site was vacant. Irrigation ditches, portions of which are lined by concrete, extend through the site. Unimproved access roads corresponding to the alignments of Ashland and Dakota Avenues extend through the site.

Historic Uses Of The Project Site

Based on a review of historic photographs and records, the project site has been developed as primarily agricultural use with a minor rural residential component.

Hazardous Materials Survey

The Phase I ESA included a survey of potentially hazardous materials present on the project site: A summary of the findings follows:

Polychlorinated Biphenyls (PCBs)

Polychlorinated biphenyls (PCBs) are mixtures of man-made chemicals with similar chemical structures. PCBs can range from oily liquids to waxy solids. Because of their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications, including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, and rubber products; in pigments, dyes, and carbonless copy paper; and many other applications. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to cessation of production in 1977.

The only identified source from the Phase I Assessment of PCB's on the project site was the pole-mounted electrical transformers observed on the subject site. The transformer casings displayed no visual evidence of leakage and the ground surface below the transformers displayed no evidence of discoloration. Based on the Phase I observations, the Pacific Gas & Electric (PG&E) Company is the owner of the transformers. Some of the transformers were clearly labeled with "Non-PCB" sticker indicating that they do not contain PCB fluids. Based on the visual absence of apparent unauthorized releases of insulating fluids from the unlabeled transformers at the time of the Phase I site reconnaissance, the transformers are not currently anticipated to pose an adverse impact to the subject site. However, in the event of a future

release/leak of insulating fluids from the unlabeled transformers, PG&E should be contacted regarding the testing of the transformers for PCB fluids or for their removal/replacement.

Pesticides

A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. The term pesticide applies to insecticides, herbicides, fungicides, and various other substances used to control pests. The health effects of pesticides depend on the type of pesticide. Examples of health risks posed by pesticides include cancer, nervous system damage, hormone or endocrine disruption, and eye or skin irritation.

The project site has historically been used for agricultural. Therefore, pesticides were likely routinely applied as part of pest abatement. There was a liquid fertilizer above ground storage tank and two empty liquid fertilizer above ground storage tanks were observed within the farm equipment storage yard located within the central portion of the project site. It is not known if environmentally persistent pesticides/herbicides were historically applied to the crops grown on the subject site; however, generally, sampling and analysis of surface soils from properties with similar agricultural histories has typically yielded non-detectable results or very low concentrations for analysis of environmentally persistent pesticides. Therefore, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to exist in the near-surface soils of the subject site, which would require regulatory action, is anticipated to be low by the consultant.

Hydrocarbons/Aboveground and Underground Storage Tanks

Petroleum hydrocarbons are derived from crude oil, which is refined into various petroleum products such as diesel, gasoline, kerosene, lubricants, and heavy fuel oils. Hydrocarbons constituents include benzene, N-heptane, and toluene, and generate health effects such as cancer, leukemia, asthmatic bronchitis, kidney damage, and eye irritation. Hydrocarbons are stored in ASTs and USTs. Leaking ASTs and USTs can result in contamination of groundwater sources or fire and explosion.

In the 2007 reconnaissance by the consultant, two 10,000-gallon diesel fuel Aboveground Storage Tanks (ASTs) were noted at the site along the east central boundary and the north central portion of the site. At the time, de minimus surface staining was observed under one diesel tank. In the 2011, reconnaissance, only one 10,000 diesel AST was identified on the site. At that time, no evidence of surface staining or petroleum hydrocarbon odors was observed in association with the diesel fuel AST. The consultant found that the Diesel AST appears to have been located in the location for approximately four years. Based upon all of the above, the consultant did not anticipate the project site to be adversely impacted or the project to cause an adverse impact based upon hydrocarbons. However, the consultant recommended that if the AST is not planned for future use it recommends that the AST be properly removed from the subject site.

Southern Pacific Railroad Tracks

A former alignment of the Southern Pacific Railroad tracks extends adjacent (off-site) of the northwestern boundary of the site. The railroad tracks and ballast materials were removed many years ago. A Phase I Site Assessment concluded that herbicides may have been applied to the soils within the former railroad track alignment; however, no evidence of herbicide contamination was observed in association with subject site surface soils along the railroad track alignment. The condition of soils at areas of the site adjacent to the railroad alignment did not exhibit evidence of contamination and had seasonal vegetative growth. The Phase I assessment concluded that further assessment of site soils in close proximity to the former railroad track alignment is unlikely to reveal concentrations above regulatory agency levels requiring further assessment or remedial action. Therefore, it is not anticipated that there would be adverse impacts caused from herbicides from this site to the project site or project users.

Other Hazards

PG&E submitted a comment letter in response to the Notice of Preparation for the Westlake Environmental Impact Report. PG&E owns and operates an electric transmission pole line (Kearney-Biola 70KV Electric Transmission Line) and a high pressure gas transmission line (Gas Transmission DFM Grantland Avenue) with the project boundaries. Neither of these are likely to cause a significant risk of harm to those in or around these facilities. Although there are some that have argued that high-voltage power lines emit electromagnetic fields (EMFs) cause cancer or other health risks, this has not been established in scientific research. Additionally, the PG&E pole line in the project site is not a high-voltage power line.

IMPACT EVALUATION CRITERIA

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with hazards and hazardous materials if the project would:

- 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 or risk of explosion.*
- 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. (Refer to Initial Study, Appendix A, Found No Impact)

- 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. (Refer to Initial Study, Appendix A, Found No Impact)*
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (See Chapter 7, Impacts Found to Be Less Than Significant).*
- 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. (See Chapter 7, Impacts Found to Be Less Than Significant).*

3.7.2 IMPACT ANALYSIS

Impact #3.7.1 – Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions.

This impact is associated with hazards caused by the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the project site. Mitigation Measure #3.8.1 also requires the implementation of Best Management Practices to ensure construction related storm water runoff water quality impacts are minimized. Therefore, no significant impacts would occur during construction activities.

It is anticipated that the proposed project would not be a large-quantity user of hazardous materials. Small quantities of hazardous materials would be used onsite, including cleaning solvents (e.g., degreasers, paint thinners, and aerosol propellants), paints (both latex- and oil-based), acids and bases (such as many cleaners), disinfectants, and fertilizers. The potential risks posed by the use and storage of these hazardous materials are primarily limited to the immediate vicinity of the materials. Transport of these materials would be performed by commercial vendors who would be required to comply with various federal and state laws regarding hazardous materials transportation. As such, these materials are not expected to expose human health or the environment to undue risks associated with their use.

Operational activities associated with the 55-acre lake would require the use of chemicals and filtering to maintain the lake. The activities would be regulated by various federal and state laws regarding hazardous materials. The project would be required to prepare and submit a Hazardous Materials Business Plan to Fresno County if it handles a hazardous material equal or greater than:

- 500 pounds of a solid;
- 55 gallons of a liquid; and
- 200 cubic feet of a compressed gas at standard temperature and pressure.

The Hazardous Materials Business Plan would define processes by which the lake maintenance operations would manage the receipt, use, exposure to, inventory of, and final disposition of all hazardous materials used onsite, including those used for cleaning and maintenance.

Conclusion: In summary, it is not reasonably foreseeable that the proposed project would create a significant hazard to the public or the environment from routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions. Impacts would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.7.2 – Create a significant health hazard to the public or the environment through the introduction of a man-made lake.

The proposed project would feature a 55-acre man-made lake as the focal point of the development. While man-made lakes can be attractive recreational features, they can also be a source of mosquito activity if not properly maintained. Mosquitoes while annoying also pose a serious risk to public health. In the Fresno area, mosquitoes can transmit diseases like West Nile Virus.

The Fresno Mosquito and Vector Control District recommended a measure to eliminate potential mosquito sources. This recommendation is included as a mitigation measure. Additionally, the City of Fresno has adopted “Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding”. These guidelines have been included as a mitigation measure as well.

Conclusion: The proposed project would introduce a 55-acre man-made lake and if not properly maintained it could serve as a source of mosquito activity. Because of the serious health risks associated with mosquito-borne diseases, this is a *potentially significant impact*.

Mitigation Measure #3.7.2a: The project shall submit a Mosquito Control Plan for the operation and maintenance of the proposed lake.

Mitigation Measure #3.7.2b: The design of the lake feature shall be in accordance with the guidelines established by the City of Fresno in its “Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding”, as applicable.

Effectiveness of Measure: With the implementation of the above measures, the potential for health hazard risks associated with mosquito-borne diseases would be *less than significant*.

Impact #3.7.3 – Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The project site is served by the Central Unified School District. The nearest school to the project site is Roosevelt Elementary School and is located 0.28 miles south of the project’s south-western boundary. Other schools in the vicinity include Glacier Point Middle School, 0.47 miles east of the project’s central-eastern boundary and Harvest Elementary School, 0.42 miles east of the project’s north-eastern boundary. The project has designated approximately 12 acres for future use as an elementary school.

Based on the current project description of a residential and community commercial development, it is not reasonably foreseeable that the proposed project will cause a significant impact by emitting hazardous waste or bringing hazardous materials within one-quarter mile of an existing or proposed school. These land uses do not generate, store, or dispose of significant quantities of hazardous materials. Such uses also do not normally involve dangerous activities that could expose persons onsite or in the surrounding areas to large quantities of hazardous materials.

Conclusion: Impacts would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.7.4 – 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.

This impact analysis addresses the potential for the development of the proposed project to expose persons or the environment to hazardous materials associated with past and current uses of the project site, as well as activities at surrounding land uses.

Project Site

The Phase I ESA identified several issues associated with past and present uses of the project site that could potentially result in the exposure of persons and environment to hazardous materials: pesticides, abandoned wells, and ASTs. Each is discussed below:

Pesticides

The project site was formerly used for agricultural production. There was a liquid fertilizer above ground storage tank and two empty liquid fertilizer above ground storage tanks were

observed within the farm equipment storage yard located within the central portion of the project site. While agricultural chemicals were not directly observed on the project site during the site reconnaissance, their uses are assumed due to past agricultural practices. It is unknown how recently such chemicals were used onsite and in what quantities. Therefore, mitigation is proposed requiring the project applicant to undertake Phase II soil testing of the project site to determine whether residual concentrations of agricultural chemicals are present and, if so, whether these concentrations are within acceptable limits for residential and commercial developments. If the concentrations exceed acceptable limits, the mitigation measure requires the applicant to perform soil remediation activities prior to grading to ensure that human health and the environment are not exposed to harmful concentrations of agricultural chemicals. With the implementation of this mitigation measure, impacts would be reduced to a level of less than significant.

Abandoned Wells

There were no wells or septic systems directly observed on the property. As such, it is assumed that, due to the presence of past agriculture on the project site, there are agricultural wells onsite as well as domestic wells and possible septic systems for the rural residence that existed on-site, but were removed in 1976. As these wells and septic systems would not be used at a future date with the proposed project, they should be abandoned in accordance with applicable local, state, and federal regulations. In particular, the closure of all onsite wells and septic systems should be required as a condition of approval for the proposed project. This condition has been included as mitigation measure. The abandonment of the existing wells and septic systems in accordance with applicable laws would not pose a health risk. Therefore, with the implementation of mitigation, impacts would be less than significant for all well closure associated activities.

Aboveground Storage Tanks

In the 2007 reconnaissance by the consultant, two 10,000-gallon diesel fuel Aboveground Storage Tanks (ASTs) were noted at the site along the east central boundary and the north central portion of the site. At the time, de minimus surface staining was observed under one diesel tank. In the 2011, reconnaissance, only one 10,000 diesel AST was identified on the site. At that time, no evidence of surface staining or petroleum hydrocarbon odors was observed in association with the diesel fuel AST. The consultant found that the Diesel AST appears to have been located in the location for approximately four years. It was Kleinfelder's opinion at the time of the site reconnaissance that the diesel soil impacted conditions were considered a de minimis condition. However, given the proposed development of residential uses, a Phase II soil sampling is recommended. Mitigation is requiring additional soil sampling to determine if the diesel impacts exceed regulatory guidance and if so, to delineate the horizontal and vertical extent of the diesel impacts in order to implement a soil remediation program. Remediation will be conducted in accordance with Department of Toxic Substances Control guidelines. The implementation of this mitigation measure would reduce impacts to a level of less than significant.

Southern Pacific Railroad Tracks

A wide variety of herbicides may have been applied to the soils at areas within the former railroad track alignment. The condition of soils at areas of the site adjacent to the railroad alignment did not exhibit obvious evidence of contamination and had seasonal vegetative growth. It was Kleinfelder's opinion that further assessment of site soils in close proximity to the former railroad track alignment is unlikely to reveal concentrations above regulatory agency levels requiring further assessment or remedial action. However, given the proposed development of residential uses, a Phase II soil sampling is recommended. Mitigation is requiring soil sampling adjacent to the former rail alignment to ensure that concentrations do not exceed regulatory agency levels. Should the concentrations exceed regulatory agency levels, a remediation program will be conducted in accordance with Department of Toxic Substances Control guidelines. The implementation of this mitigation measure would reduce impacts to a level of less than significant.

Electric Power Lines and Natural Gas Transmission Lines

PG&E owns and operates an electric transmission pole and a high pressure gas transmission line within the project's boundaries. Project construction may require the relocation of existing facilities and has the potential to damage underground natural gas transmission lines. This would be a potentially significant impact.

The California Public Utilities Commission (CPUC) has mandated clearance requirements between utility facilities and surrounding objects or construction activities. PG&E provided recommendations to ensure that the proposed project does not adversely impact their facilities. These recommendations have been incorporated as mitigation and require that the locations of each wooden transmission pole be delineated on grading/development plans, provides PG&E the opportunity to review and approve plans, provides a minimum cover over the top of gas lines at final grade, and ensures future access to facilities. With the implementation of these mitigation measures, the impacts are reduced a less than significant level.

Government Code 65962.2

As mentioned previously, there are no known hazardous materials sites within the proposed project site or vicinity. The databases, lists and or reports delineated previously were consulted in preparation of the Phase I Environmental Site Assessment in order to identify any recorded hazardous material and waste sites within the proposed project area. No recorded sites were identified.

Surrounding Land Uses

There are several sites within 0.5 mile of the project site that are recorded on hazardous materials databases. However, the Phase I ESA indicate that hazardous materials usage or contamination at the nearby sites does not pose a significant environmental concern to the project site since three of the four sites are active UST sites with no records of violations or contamination. The third site is a cleanup vacant field that had a UST removed and was granted closure status by the

Fresno County Department of Community Health. None of these sites would be considered to pose a significant environment risk to the project site.

Conclusion: Because of the risk of hazardous materials, this is a *potentially significant impact*.

Mitigation Measure #3.7.4a: Prior to issuance of grading permits, the project applicant shall retain a qualified consultant to perform testing of the project site soils, in particular those soils on the site that were subject to pesticide use, soils in the vicinity of the diesel fuel storage tank and soils adjacent to the former railroad alignment, in accordance with the California Department of Toxic Substances (DTSC) “Interim Guidance for Sampling Agricultural Properties”. The Guidance document provides recommendations for the number of soil samples and methodology based on project size in acres. Soils shall be laboratory tested for organochlorine pesticides and arsenic in accordance with DTSC guidelines. If the testing yields concentrations in excess of acceptable limits for residential and commercial development, the project applicant shall retain a qualified contractor to perform soil remediation in accordance with DTSC guidelines. The soil remediation activities shall be completed prior to grading activities. The applicant shall submit documentation to the City of Fresno demonstrating that soil testing was performed and any necessary remediation was completed as part of the grading permit application.

Mitigation Measure #3.7.4b: Irrigation wells that may be dispersed throughout the project site, and any potential onsite domestic wells and septic systems shall be properly abandoned or destroyed in compliance with applicable regulations of the Fresno County Department of Public Health governing water wells and septic systems. Consultation shall occur with the Department of Public Health regarding well and septic system abandonment and inspections. Documentation of wells and septic systems being abandoned or destroyed shall be submitted to the City of Fresno Planning Department prior to construction of proposed uses. If irrigation wells and septic systems are found during construction activities; those activities shall cease until consultation with the County Department of Public Health has occurred to review proper abandonment of those systems. The developer shall be allowed to keep an existing on-site well for lake purposes.

Mitigation Measure #3.7.4c: The applicant shall consult with PG&E to determine the location of electric power lines and high-pressure gas transmission lines within the project boundaries. The locations/depths shall be delineated on all grading/development plans. Development plans shall provide for unrestricted utility access and prevent easement encroachments that might impair the safe and reliable maintenance and operation of PG&E facilities. Grading/development plans shall indicate which types of equipment and wheel load limits will be acceptable for work over the gas line. PG&E shall be afforded the opportunity to consult with the developer on project plans.

Effectiveness of Measures: With the implementation of the above measures, potential hazardous impacts from past and current uses on the project site would be *less than significant*.

3.8 Hydrology/Water Supply/Water Quality

INTRODUCTION

This section discusses aspects of the proposed project that have the potential to impact hydrology and water quality during construction and after implementation of the project. Issues such as drainage, groundwater supply and recharge, water quality, water supply and flooding will be discussed.

3.8.1 REGULATORY AND PHYSICAL SETTING

Regulatory

FEDERAL

Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the EPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters, sets water quality standards for all contaminants in surface waters, and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. It mandates permits for wastewater and storm water discharges, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as the dredging and filling of wetlands.

Section 402(p) of the Act requires that storm water associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by a NPDES permit. On December 8, 1999, the United States Environmental Protection Agency (EPA) circulated Phase II regulations for non-point sources requiring permits for storm water. Permits are required for discharges from Small Municipal Separate Storm Sewer System (MS4s) operators. In California, the NPDES Program is administered by the State (see below).

Safe Drinking Water Act

The Federal Safe Drinking Water Act (SDWA) provides regulations for drinking water quality. The SDWA gives the U.S. Environmental Protection Agency (EPA) the authority to set drinking water standards, such as the National Primary Drinking Water regulations (NPDWRs or primary standards). The NPDWRs protect drinking water quality by limiting the levels of specific

contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to 25 or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to the EPA when a maximum contaminant level (MCL) has been exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), (carcinogens), radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and Escherichia coli). Changes to the MCL list are typically made every three years, as the EPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

Federal Emergency Management Agency (FEMA)

Floodplain zones are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs) designating flood areas. These tools assist cities in mitigating flooding hazards through land use planning and building permit requirements. To address the need for insurance to cover flooding issues, FEMA administers the National Flood Insurance Administration (NFIA) program. The NFIA program provides federal flood insurance and federally financed loans for property owners in flood prone areas. The 100-year floodplain is the area that has a statistical probability of being flooded every 100 years. To qualify for federal flood insurance, a City must identify flood hazard areas and implement a system of protective controls.

STATE

General

SB 610 (Water Code Sections 10910-10915) requires the preparation and adoption of a Water Supply Assessment (WSA) for defined projects for inclusion in the project's EIR. Furthermore, SB 221 (Government Code Section 66473.7) requires that the City include as a condition on the approval of Tentative Maps for residential subdivisions of 500 or more units the requirement that applicants provide verification that the Public Water System has sufficient water to supply the residential project for 20 years. (This project is subject to these requirements.)

Landscaping

Assembly Bill 1881 requires water conservation measures associated with development landscaping be implemented by local agencies having responsibility for development approval. (The City of Fresno provides additional conservation standards in its Landscape ordinances, Municipal Code of the City of Fresno, Chapter 6 Municipal Services and Utilities, Article 5, Water Regulations Section 6-522 Water Efficient Landscape Standards, Section 6-520 Wastage

of Water.) The City is also enforcing, as required by the State of California, a Model Water Efficient Landscape Ordinance.

Regional Water Quality Control Board

The State's Porter-Cologne Water Quality Control Act outlines the responsibilities of the Regional Water Quality Control Boards (RWQCB), and the procedures for coordinating with the state Water Quality Control Board (SWQCB) to meet federal CWA standards. Fresno County falls within the Central Valley Region, which is the largest in the State, stretching from the Oregon border south to Los Angeles County. It encompasses 60,000 square miles, or about 40 percent of the State's total area, and includes 38 of the State's 58 counties.

The Central Valley Regional Water Quality Control Board (CVRWQCB) headquarters are in Sacramento with branch offices in Fresno and Redding. The CVRWQCB mission is to "preserve and enhance the quality of California's water resources for the benefit of present and future generations." This duty is carried out by formulating and adopting water quality control plans for specific ground and surface water basins and by prescribing and enforcing requirements on waste discharges. As mentioned above, jurisdictions submit various water quality and storm water plans to the regional and State boards for approvals.

The Water Quality Control Plan for the Tulare Lake Basin was adopted in 1995 and revised in 2004. This Basin Plan gives direction on the beneficial uses of the state waters within the basin, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges, individual permits and general permits. The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0004-DWQ) for MS4s covered under the CWA to efficiently regulate numerous storm water discharges under a single permit. Permit applicants must meet the requirements in Provision D of the General Permit, which requires development and implementation of a Storm Water Management Plan (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable.

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES Permit for stormwater discharges from construction sites (NPDES No. CAS000002); it was updated in 2010. Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the General Permit. Each permit must list Best Management Practices (BMPs) to be implemented on the construction site to protect stormwater runoff and must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants to be implemented if there is a failure of BMPs;

and a monitoring plan if the site discharges directly to a water body listed on the state's 303(d) list of impaired waters. Updated regulations (July, 2010), further define the Board's stormwater discharge permit requirements.

LOCAL

City of Fresno General Plan

The following City of Fresno General Plan policies have been adopted to address water quality, groundwater supplies and recharge, storm drainage and flood hazards

Public Facilities Element

E-22-C. Policy The Department of Public Utilities will recommend capital improvement plans and fee schedules to meet the demands of planned development (including both intensification of established areas and new development within designated growth areas) and continue to provide adequate water quantity and quality to serve the established urban community including those communities located outside the city's adopted sphere of influence where determined that public health standards of water quality and quantity are not being met.

E-23-e. Policy ...The City of Fresno shall support multiple uses of flood control and drainage facilities as follows:

- *The City of Fresno shall utilize, wherever practical, FMFCD facilities for groundwater management and recharge; and*
- *The City of Fresno shall encourage development of ponding basin facilities located within or near residential areas, so as to maximize the potential for recreational use compatible with the storm water and groundwater recharge functions.*

E-22-h. Policy Implement appropriate measures consistent with water system policies, including the removal of pump stations from active use, installation of well-head treatment facilities, construction of above-ground storage and surface water treatment facilities, and enhancement of transmission grid mains to ensure adequate water quality and quantity.

E-23-d. Policy The City of Fresno shall coordinate construction with other public and private agencies, particularly with respect to streets, sewerage, water, gas, electric, and irrigation improvements, with flood control facilities to seek the greatest public benefit at the least public cost.

E-23-i. Policy The City of Fresno shall work with the Fresno Metropolitan Flood Control District to prevent and reduce the existence of urban storm water pollutants to the maximum extent practical, and ensure that surface and groundwater quality, public health and the environment will not be adversely affected by urban runoff, pursuant to the requirements of the National Pollution Discharge Elimination System (NPDES) Act.

Resource Conservation Element

G-3a. Policy Monitor key water pollutants to determine directions and rates of contaminant travel, in order to achieve cost-effective and timely intervention for containment and remediation of contamination, and to indicate which areas may require water treatment to supply acceptable-quality drinking water.

G-3-c. Policy Support continued efforts to identify and mitigate detriments to surface and groundwater quality that may result from storm water discharge from urbanized areas.

G-3-e. Policy Support and encourage actions of the Regional Water Quality Control Board, the State Environmental Protection Agency, and the local health department to control and prevent water contamination, including leaking underground storage tank and abandoned storage tank abatement programs.

G-3-f. Policy Continue programs to collect and treat sewage to enhance water quality and reclaim water resources in a manner that protects the Fresno Sole Source Aquifer.

G-3-i. Policy Continue to protect areas of beneficial natural groundwater recharge by preventing uses which can contaminate soil or groundwater.

G-4-b. Policy In cooperation with other agencies, enhance the recharge of groundwater as may be necessary.

G-4-c. Policy Address localized groundwater deficiencies and groundwater quality problems that exist or may arise in portions of the planning area.

G-4-d. Policy Explore methods of using treated and reclaimed wastewater for irrigating crops and landscaping, while ensuring that there will be no negative impacts on groundwater quality.

Safety Element

- I-5-e. Policy* *Ensure implementation of land grading and development policies which protect area residents from flooding caused by urban runoff produced by events which exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities.*
- I-5-f. Policy* *The minimum level of design flood protection shall be the 100-year (one percent) event, as established by the best and most current available data from the U.S. Army Corps of Engineers and the California Department of Water Resources, pursuant to Federal Emergency Management Agency (FEMA) direction.*
- I-5-a. Policy* *Pursuant to state law, the city shall prepare and update emergency dam failure inundation plans, evacuation plans and other emergency response plans for designated flood-prone areas, including the San Joaquin river bottom.*
- I-6-i. Policy* *The city will utilize conditions for development projects, will adopt and enforce ordinances, and will use its police powers for land use regulation, code enforcement and nuisance abatement in order to prohibit the inappropriate use of, and/or discharge of, toxic and hazardous materials to the atmosphere, to wastewater collection and storm drainage systems, to groundwater, and to surface bodies of water, when such use or discharge threatens public health, safety, or general welfare.*

Fresno Irrigation District

The Fresno Irrigation District (FID), which is comprised of approximately 245,000 acres, lies entirely within Fresno County and includes the rapidly growing Fresno-Clovis Metropolitan Area. The District operates approximately 800 miles of canals and pipelines. Total irrigated area exceeds 150,000 acres, although this number has been decreasing in recent years as a result of urban expansion. FID is responsible for water operations, maintenance, engineering and administration of 600 miles of canals and distribution works in their service area.

Fresno Metropolitan Flood Control District

The Fresno Metropolitan Flood Control District (FMFCD) is responsible for flood control and storm water planning and management of an area that includes the proposed project site. The "District Services Plan" presents comprehensive policies and implementation actions for flood control, rural streams management, local storm water drainage, storm water quality management, water conservation, recreation, and related wildlife management. FMFCD also has a formal policy pertaining to private (artificial) lakes. Additional policies used to administer the District Services [Master] Plan may also apply.

Other LOCAL water regulations include:

- Fresno County groundwater plans and ordinances;
- Fresno Irrigation District groundwater management plan and requirements for canal modifications;
- Fresno County policies regarding review of grading plans which may affect land under County jurisdiction;
- *City of Fresno Urban Water Management Plan* (adopted in November, 2012);
- City of Fresno's current contract with the U.S. Bureau of Reclamation for Central Valley Improvement Act water (surface water from the San Joaquin River);
- *City of Fresno Metropolitan Water Resources Management Plan* (Phase I Study dated 2007; next phase currently in preparation);
- *City of Fresno Recycled Water Plan* and related ordinances (currently in preparation);
- *Fresno Municipal Code* sections regarding the flood plain ordinance, mandatory piping of canals, landscaping water conservation and sewer connection;
- A policy conceptually approved by the Fresno City Council in 1991 regarding manmade lakes;
- City of Fresno Department of Public Utilities permitting for wastewater treatment and discharge tributary to the Fresno-Clovis Regional Wastewater Treatment and Reclamation Facility; and
- City of Fresno Department of Public Utilities requirements for water well abandonment.

Storm drainage policy coordination between the FMFCD and the cities and County occurs through the Storm Drainage and Flood Control Master Plan prepared by the District as an element within the General Plan of each agency. The Storm Drainage and Flood Control Master plan identifies urban and rural drainage area boundaries, computes runoff flows based on planned land use, identifies drainage facility size and location, establishes street grades necessary to accomplish drainage of the runoff from the point of origin to the nearest collector facility, and identifies natural channels requiring preservation. It also provides calculation of minimum channel capacities and identifies necessary control structures. Further urban development within the planned urban area that is subject to the 1983 Joint Resolution on Metropolitan Planning between Fresno County and the Cities of Fresno and Clovis and the addition of new area planned for urban development will necessitate the amendment of the district's boundaries and updating its master plan.

City of Fresno Artificial Lake Policy

The Fresno City Council in 1991 conceptually approved a policy regarding manmade lakes which had been submitted to the Council by the Public Works Department, Water Division. It did not thereafter adopt the Department-recommended environmental assessment, Resolution or any related ordinance. Nevertheless the City staff has requested that the policy be considered in the environmental evaluation of this project. A copy of the staff letter is included as Appendix J to this draft EIR.

The then-staff's policy recommendation memo concluded with thirteen suggested policy components. These components, and the environmental relevance of this project's lake thereto, are (please see the cited impact analysis section of this EIR for any impact relevance):

1. Artificial lake projects will not be permitted unless one or more of the following conditions are met: (underlining added)
 - a. Fresno Irrigation District (FID) water entitlements run with the land of the proposed development and the lake feature is entirely within FID boundaries.
 - b. Reclaimed water is available and adequate to supply the lake.
 - c. The lake feature provides substantial mitigation of groundwater contamination.

Environmental relevance to this project:

- a. *The City receives entitlement to FID water in proportion to the total area within the City to the FID's total water service area. Such entitlement has no relationship to whether or not property within FID and being annexed has entitlements. (FID water has, in the past however, been supplied to the project site for agricultural irrigation.) (See Impact #3.8.2(b))*
 - b. *The project has no reclaimed water available for lake fill purposes.*
 - c. *The lake is to be fully lined thus mitigating groundwater contamination. (See Impact #3.8.1(a))*
2. Except for lake projects which are specifically designed to mitigate groundwater contamination or which provide intentional recharge benefit, Bureau of Reclamation (San Joaquin River) water or treated surface water shall not be used for initial filling or subsequent make-up water. Any such use of Bureau water shall require a written agreement approved by the Public Works Director.

Environmental relevance to this project:

The project lake does not propose usage of Bureau of Reclamation water or treated groundwater. (See Impact #3.8.2(b))

3. Artificial lake features may be permitted if FID surface water entitlements and conveyance features are available to supply the lake and a positive net impact on the groundwater table will result. Any conveyance facility enhancements which may be required shall be constructed at the developer's expense.

Environmental relevance to this project:

FID conveyance facilities, ditches, are on the project site. They will be converted to pipelines at the developer's expense. (See Impact #3.8.2(b))

4. FID surface water entitlements running with the land on which the lake is to be located may be used for the initial filling or make-up water for the lake provided the developer assumes all FID taxes, assessments or charges on the property and the developer provides the necessary water conveyance facilities at no cost to the City.

Environmental relevance to this project:

Please see the responses to policy components 1.a. and 3. The project developer proposes to pay all FID taxes, assessments, or charges on the project site.

5. Generally, artificial lake features which result in intentional recharge benefit or mitigation of existing groundwater contamination may be encouraged.

Environmental relevance of the project lake:

The lake is designed to detain runoff destined for discharge to a downstream recharge basin to be constructed by the developer. The project will utilize Best Management Practices to mitigate potential groundwater contamination at the recharge basin. The current potential source of groundwater contamination from the lake site, and project site, agricultural fertilization and pest control will be eliminated. (See Impact #3.8.1(a))

6. In conformance with the California Environmental Quality Act, each project or development will be subject to a separate environmental assessment which may impose mitigation measures in addition to those included in this policy.

Environmental relevance to this project:

This EIR incorporates such mitigation measures. (See Impacts 3.8)

7. A Design Development Report and a Lake Management Plan (LMP) shall be prepared by the developer of each artificial lake project; both shall be subject to City approval. At a minimum these reports shall include:
 - a. Level I Hazardous Substance Site Assessment;
 - b. Detailed design of the lake and surface water conveyance facilities;
 - c. Detailed operation and maintenance plan; and
 - d. Water safety design criteria.

The City shall be granted authority to administer the LMP. The City shall be reimbursed for all its costs in accordance with a process established by the City and included in the LMP. A homeowners association shall be responsible for all costs associated with the LMP, including administration costs.

Environmental relevance to this project:

It is assumed that the City may require submittal of these reports as a condition of any project final map approval.

The project provides for lake operation and management by a homeowners association. Lake Management Plan oversight by the City may be a condition of project approval.

8. The environmental studies and Lake Management Plan provided by the developer shall include a determination of the net impact of the lake on the groundwater supply.

Environmental relevance to this project:

The Water Supply Assessment for the project approved by the City Council and referred to in the EIR included such determination. (See Appendix G)

9. The cumulative adverse impacts resulting from all artificial lakes in the metropolitan area must be evaluated in the environmental process for a proposed lake and found to be insignificant if the lake is to be permitted. Any significant impacts resulting from a reduction in the City's net available water resources which could be put to more beneficial use, may be considered part of cumulative impacts.

Environmental relevance to this project:

The EIR for this project found no unmitigated environmental impacts which will result from the proposed lake. (See Impacts 3.8) There is no cumulative lake impact. As of the preparation of this Draft EIR, the City has made no finding related to whether the use of water for the lake is

less beneficial than any other beneficial use. It is noted, in that regard, that water recreation is named as a beneficial use in the California Water Quality Control Board's Tulare Lake Basin Plan.

10. The use of contaminated water or reclaimed water in an artificial lake feature shall be allowed provided all Federal and State regulations are satisfied.

Environmental relevance to this project:

The project does not propose the use of contaminated water or reclaimed water for the lake.

11. Fountains or aerial spray features shall be prohibited.

Environmental relevance to this project:

The project does not propose the inclusion of fountains or aerial spray features in the lake design.

12. In the event a proposed lake results in a negative net impact on the groundwater table, that impact may be mitigated by the developer by providing an off-site recharge enhancement facility capable of recharging at least four times the groundwater deficiency resulting from the lake. Such facilities shall be subject to approval by the Director of Public Works and shall not be subject to UGM reimbursement or fee credit.

Environmental relevance to this project:

All non-industrial urban development projects in the Tulare Lake Basin which are in areas currently developed for irrigated agriculture continue to impact groundwater levels but at a gross rate essentially equal to that which was previously utilized. Because of the advantage resulting from treated wastewater recharge the net rate of usage of the water resource is less. The development and operation of this project, including the lake, utilizes no more water than development which would occur in accord with existing General Plan/zoning designations.

There is therefore no project/Lake-related negative net impact on the groundwater table in the Basin or Kings Subbasin. Nevertheless, the project includes a ponding basin to be constructed by the developer which will provide groundwater recharge. (See Impact #3.8.3(b))

13. Private wells (used for lake refill during periods when surface water is not available) shall be subject to the City's well permit process. These wells shall be located such that their pumping comes will have a minimal impact on existing or proposed city municipal wells. The wells shall be equipped with water meters in accordance with the Fresno Municipal Code and the homeowners associations shall be billed for the water used in accordance with the Master Fee Schedule.

Environmental relevance to the project:

Should such a well or wells be necessary or required their location and design will be subject to City approval. Given proper location they will create no environmental impact.

Physical (Existing)

WATER SUPPLY

Fresno's water facilities are characterized by a pattern of groundwater wells pumping water into a city-wide distribution pipe system. Historically, the system has been developed incrementally. As a consequence, as additional development occurred, local wells were drilled to satisfy the associated water demand. Until recently, the system has been reliable, flexible, easily implemented, and inexpensive to operate.

As discussed further below, the Tulare Lake Basin aquifers have been determined to be in a state of severe overdraft and the City's current extractions exceed the amount of natural and intentional recharge of the aquifer.

Fresno's economic and environmental future depends on implementing a reliable long-range water supply plan. To that end, the Fresno Department of Public Utilities has completed and the City Council has adopted, a Fresno Metropolitan Water Resource Management Plan (MWRMP) that identifies strategies to establish economically and environmentally sound options for the provision of safe, adequate, and dependable water supplies to meet the Fresno metropolitan area's long term needs (year 2050). These strategies include water conservation, sustainable use of groundwater while protecting the aquifer from further degradation, and direct use of treated surface water supplies. Implementation efforts include expanded groundwater recharge activity, construction of a surface water treatment facility and development of an enhanced water distribution system that can be implemented over time as determined appropriate. The City of Fresno adopted an Urban Water Management Plan (UWMP) in August 2008.

In recent years, changing drinking water standards and migrating groundwater contaminants have seriously impacted the reliability and cost of operating the City of Fresno water system. When a well is removed for any reason, water must be supplied from surrounding wells and limited size of distribution pipelines can result in decreased water pressure in the affected area. Surrounding wells must also pump more water to make up for the off-line well, sometimes resulting in lower pressures in adjacent areas.

SURFACE WATER

The City of Fresno currently has three sources of surface water supplies:

- Surface water supplies available from FID contract;
- Surface water supplies available from USBR; and

- Surface water supply available through the City's Wastewater Recycle Exchange agreement with FID.

These available surface water supplies are treated at the City's Surface Water Treatment Facility (SWTF) located in northeast Fresno. The existing SWTF currently has a design capacity of 30 million gallons per day (mgd). Based on this design capacity, assuming that the SWTF is down for one month of the year for maintenance activities, the SWTF can provide up to approximately 30,800 af/yr of treated surface water supply. However, due to some operational constraints, the SWTF has a current operational capacity of only 27.5 mgd, or about 28,300 af/yr. Each of the surface water supply sources is described below.

The City's projected future surface water supplies in normal years are expected to increase to 205,300 af/yr by 2030 as the City's supply from the FID Kings River increases. However, the City currently only has a treatment capacity of 28,300 to 30,800 af/yr based on its SWTF. In the future the City plans to construct an additional SWTF in the southeast portion of the City and also expand the existing SWTF, increasing total capacity to 123,000 acre feet per year by 2030.

GROUNDWATER

The City of Fresno draws its groundwater supply from the Kings Subbasin of the San Joaquin Valley Groundwater Basin. The Kings Subbasin (DWR Basin No. 5-22.08) underlies Fresno, Kings, and Tulare Counties and has a surface area of 976,000 acres (1,530 square miles).

Groundwater levels in the Fresno area have declined by an average of about 1.5 feet per year since 1990. The slowest groundwater-level declines (less than 0.5 feet per year) were generally observed in the southwestern portion of the City's downtown area, while groundwater-level declines increased to 1.0 foot per year northeast of the downtown area. Average groundwater-level declines as high as 1.5 feet per year were primarily observed in the northern and southeastern (near the Fresno Air Terminal) portions of the City. The largest average annual groundwater-level declines (3.0 feet per year) were observed in the northeastern area of the City, near Clovis.

In DWR Bulletin 118-80, eleven basins, including the Kings Subbasin, were identified as being in a critical condition of overdraft. The overdraft status of these basins were not re-evaluated by DWR in DWR Bulletin 118-03; however, DWR Bulletin 118-03 does acknowledge the groundwater recharge programs being conducted by the City of Fresno, FID, and FMFCD within the Kings Subbasin to ensure that groundwater will continue to be a viable water supply in the future. One of the City's objectives, by making significant infrastructure investments, is to balance its groundwater operations by the year 2025 by utilizing available surface water and reclaimed water, and reducing water demand through conservation measures. It is projected that at that point groundwater pumpage will equal groundwater recharge, thus minimizing the potential for further groundwater level declines and any accompanying water quality impacts.

WATER QUALITY

The City's surface water supply is from the Fresno Irrigation District-transported Millerton or Pine Flat Lakes. This supply, of excellent quality, is treated to drinking water standards at the northeast Fresno Surface Water Treatment Facility.

The City's groundwater well supply, from about 260 wells, meets Environmental Protection Agency (EPA) and California Department of Health Services standards. If any individual well's production fails to meet such standards it is removed from service. Annual reports regarding the City's compliance with such standards are available at the Fresno Water Division office and the California Department of Health Services.

PROJECT SITE WATER USAGE

The project site, when farmed, utilized Fresno Irrigation District surface water for 15 of the 17 APN parcels constituting the projected site, supplementing agricultural irrigation wells as required. Such surface water usage reportedly was in the order of 860 to 1,200 acre feet per year. The Water Supply Assessment for the project estimated maximum agricultural water usage was 1,380 to 1,840 acre feet per year. The site is currently (2012) fallow, so such usage is diminished.

DRAINAGE AND FLOOD CONTROL

The project site, as level fallow or agricultural land outside the current City boundaries, creates no need for urban-area type drainage facilities or drainage street-flows to abutting County roads. It does not drain to a designated water of the State or water of the United States.

Traversing the project site, with banks elevated above the surrounding ground, are two FID-owned canals, Silvia No. T and Minor Thornton. These canals, unlined, contribute to recharge on the site at an indeterminate rate.

According to FEMA Firm Map number 06019C1545H, the project site is not within a floodplain or flood prone area and there are no natural drainage courses on the project site.

The project site is located in Zone X. Zone X is the flood insurance rate zone that corresponds to (1) areas outside the 100-year floodplain, (2) areas of 100-year sheet flow flooding where average depths are less than one foot, (3) areas of 100-year stream flooding where the contributing drainage area is less than one square mile, or (4) areas protected from the 100-year flood by levees. No base flood elevation or depths are shown within this zone.

Friant Dam, the closest dam to the City of Fresno, is located approximately 20 miles northeast of the project site on the San Joaquin River and is owned and operated by the United States Bureau of Reclamation (USBR). Friant Dam was built in 1942 and is a concrete gravity dam with a capacity of 520,528 af. The dam is 319 feet high, 3,488 feet long and 20 feet wide and constructed of concrete (Dams Owned and Operated by Federal Agencies, May 2007).

An inundation study completed in 1997 by the Bureau of Reclamation redefined a worst-case scenario dam break of Friant Dam to include inundation of a significant portion of the City of Fresno, including the project site, and a much larger portion of Fresno County than previously described. In addition, failure of upstream dams such as Shaver Lake, Lake Thomas A. Edison and Huntington, Florence, Mammoth Pool, Wishon, and Courtright Reservoirs, could contribute to flooding conditions on the San Joaquin and Kings Rivers, respectively, if downstream capacity of the major dams is exceeded.

IMPACT EVALUATION CRITERIA

The Impact Evaluation Criteria or Thresholds of Significance standards by which impacts are measured are presented. The purpose is to establish the level at which an environmental impact will be considered significant. For the purposes of this EIR the CEQA thresholds in Appendix G were used, where it was determined that quantitative thresholds exist, they were used in lieu of the qualitative thresholds in the Guidelines.

According to the CEQA Guidelines, a project will normally have significant impacts associated with hydrology and water quality if the project would:

- 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 or provide substantial additional sources of polluted runoff.*
- 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 impeded 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.*

The Initial Study (reference Appendix A) concluded that no impact related to inundation by seiche, tsunami, or mudflow will occur as a result of proposed project implementation. Therefore, this issue will not be discussed further.

3.8.2 IMPACT ANALYSIS

The Impact Analysis section presents the evaluation of whether there is an impact and whether it can be mitigated, and is comprised of the following subsections:

Impact #3.8.1(a)–Violation of Water Quality Standards or Waste Discharge Requirements.

Constituents found in urban runoff may degrade both surface water quality and eventually groundwater quality. Development of urban uses on the proposed project site would result in alteration in the existing site conditions and the introduction of urban pollutant sources. Urban runoff typically contains oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals) and other household pollutants. Precipitation early in the rain season displaces these pollutants into storm water resulting in high pollutant concentrations in initial wet weather runoff. This initial runoff with peak pollutant levels can be referred to as the "first flush" of storm events.

The amount of runoff generated by the proposed project would be greater than the runoff occurring under existing conditions due to a significant increase in impervious surfaces. There would be a corresponding increase in urban runoff pollutants and "first flush" roadway contaminants such as heavy metals, oil, grease, as well as an increase in nutrients (i.e., fertilizers), and other chemicals from landscaped areas. These constituents will result in water quality impacts that have the potential to be significant.

The proposed project will be served by an onsite storm water system which is subject to the requirements of the NPDES Storm Water Permit adopted by the SWRCB. This permit requires that discharges of pollutants from areas of new development be reduced to the maximum extent practicable. Compliance with this standard requires that control measures be incorporated into the design of new development to reduce pollution discharges in site runoff over the life of the project.

The CVRWQCB is responsible for administering NPDES permit requirements, such as the use of construction and operational BMPs, to ensure that projects are in compliance with water quality standards as set forth in the CWA. The SWRCB through the creation of a Storm Water Quality Task Force has published the California Storm Water Best Management Practice Construction Handbook, which identifies a listing of acceptable BMPs to be used in meeting water standards as outlined by the CWA.

Conclusion: The proposed project could result in short term and long term water quality impacts that are *potentially significant*.

Mitigation Measure #3.8.1: The project applicant shall implement, and incorporate in the project, BMPs to ensure that construction related and long-term storm water runoff water quality impacts are minimized. BMPs shall be designed, constructed and maintained to meet the performance standards of and the approval of the City of Fresno and the FMFCD. The applicant shall retain a qualified specialist to monitor the effectiveness of the BMPs selected. Monitoring activities, along with funding for monitoring, shall be established and shall include (but not be limited to) initial setup, yearly maintenance, and yearly monitoring.

During buildout of the proposed project, the applicant shall implement actions and procedures established to reduce pollutant loadings. Source control BMPs are effective and economical in preventing pollutants from entering storm and non-storm runoff. Such source control BMPs will be incorporated in the program and its included projects. The other, operational and maintenance, BMPs described hereinafter will be implemented and monitored during project life in accord with the approved mitigation monitoring program. Source control BMPs to be implemented by the developer and include:

- a) Public Education/Participation activities. Information shall be provided to new project residents and tenants regarding pollution prevention.
- b) Materials Use Controls, which include good housekeeping practices (storage, use and cleanup) when handling potentially harmful materials, such as cleaning materials, fertilizers, paint, and where possible using, safer alternative products.
- c) Material Exposure Controls, which prevent and reduce pollutant discharge to storm water by minimizing the storage of hazardous materials (such as pesticides) on site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.
- d) Material Disposal and Recycling, which includes storm drain system signs and stenciling with language to discourage illegal dumping of unwanted materials.
- e) Spill Prevention and Cleanup activities which are directed toward reducing the risk of spills during the outdoor handling and transport of chemicals, and toward developing plans and programs to contain and rapidly clean up spills before they get into a storm drain system. This BMP also deals with the prevention and reduction of pollution from vehicle leaks and spills from vehicles during transport, as well as aboveground storage tanks.
- f) Illegal Dumping Controls. The Covenants, Conditions, and Restrictions (CC&R's) for the proposed project shall include a prohibition on the dumping of waste products (solid waste/liquid waste and yard trash) into storm drain systems and open space areas.

- g) The applicant shall provide a permanent storm drain message "No Dumping - Flows to Creek" or other approved message at each storm drain inlet within the proposed project site. This may be accomplished with a stamped concrete impression (for curbs) or manufactured colored tiles, which are epoxied in place adjacent to the inlet (for parking lots and areas without curbs).
- h) Street and storm drain maintenance activities. These activities control the movement of pollutants and remove them from pavements through catch basin cleaning, storm drain flushing, street sweeping, and by regularly removing illegally dumped material from storm channels and creeks. (The City of Fresno would be responsible for regular storm drain maintenance within the public right-of-way; grease traps and other storm water quality control devices on private property must be maintained by the property owners).
- i) Storm drainage shall be directed to the lined onsite lake for disposal.

Effectiveness of Mitigation: Implementation of the above mitigation measure and compliance with applicable local, State and Federal regulations will reduce project-induced water quality impacts to *less than significant*.

Impact #3.8.2(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).

The Water Supply Assessment (WSA) prepared for the project (Appendix G) (adopted by the City in October 2011) provides an overview of estimated water demands and water sources for the proposed project. According to the WSA, the proposed project's estimated average annual demand of 1,506 acre-feet (af) can be met by the City of Fresno and the Fresno FID. The water demand estimate per the 2025 General Plan Land Use and 2008 UWMP Water Use Factors is 1,520 acre-feet per year.

Further reviewing the analysis and conclusions of the Water Supply Assessment, the project is proposed to fill the 55 acre lake incorporated in its design with 224 acre feet per year of surface water from the Fresno Irrigation District and assumes approval of such usage by the City and the District. It should be noted that this surface water usage for the lake fill is included in the 1,506 acre feet total project water usage (Water Supply Assessment, Westlake Development Project, October, 2011). The balance of the project's water demand must be supplied from the City of Fresno's municipal system.

It should be noted that the City's Urban Water Management Plan does not, of course, discuss the water usage of the project lake. That usage is fully evaluated in the Water Supply Assessment for the project, as adopted by the City Council. It is again emphasized that the Project's total water usage including usage for the lake is essentially the same as, or slightly less than, that

which would have occurred with that envisioned by the 2025 General Plan which served as the basis for the Urban Water Management Plan.

Recharge from the area will be slightly less than at present because of the diversion of storm drainage and ten-year maintenance drawdown water from the lined lake to the FMFCD recharge basin, effectively replacing current runoff/percolation recharge and because of wastewater recharge.

The total water demand for development of the proposed project site, in accordance with the City of Fresno 2025 General Plan land use designations applicable to the site, was included in the water demand projections of the adopted Urban Water Management Plan (UWMP). The EIR acknowledges the assumptions upon which the UWMPs plan to reach equilibrium by 2026 are based, especially the addition of public infrastructure required to meet that goal of equilibrium. There is no evidence, in consideration of the calculated project water demand in the City-approved Water Supply Assessment for this project, that project demand exceeds that estimated in the UWMP. The adequacy of the water supply for the project has thus been determined on the basis of the analysis of the City's water supply in the adopted UWMP. In accordance with the findings of the UWMP it is concluded that the City of Fresno water system has sufficient capacity to supply the project and other projected demands within the City's service area through the year 2030 without substantially depleting groundwater supplies or interfering substantially with groundwater recharge, with projected timely completion of the City's surface water treatment facilities in accord with the City's Urban Water Master Plan. Should such facilities not be timely completed, groundwater levels may continue to be affected as at present. Such effect does not preclude continuing development at levels which do not exceed those on which the City's Urban Water Management Plan is based. No significant impact would thus result from the implementation of this project whether or not the City successfully implements its facilities implementation program.

The project site is within the Fresno Irrigation District's (FID's) water service areas and has utilized surface water from that District for agricultural irrigation.

Upon property annexation to the City, the City acquires, in accord with the City's 1976 contract with FID, additional surface water rights. The total normal-year surface water rights allocable to the City are dependent upon the ratio of the area within the City boundaries to the total area within the FID water service area.

The 2010 City area was approximately 110 square miles. The City was in 2010 entitled to 24.3% of the FID Kings River diversion, about 94,800 acre feet in a "normal year". The addition of the project area, about .7 square mile, to the City would entitle the City to approximately 620 acre feet of rights acquisition. In 2030, assuming project completion at that time, the FID water rights acquisition effected by project annexation would be in the order of 610 acre feet, essentially the same.

The project, as would a project developed in full accord with existing General Plan/zoning designations, will require about 1,500 acre feet per year of which 224 acre feet per year is due to

lake level fill/water level maintenance needs. In 2030, the City's adopted Urban Water Management Plan (UWMP) estimates that in a "normal year" approximately 51% of the City's 2030 water supply will be treated surface water and the balance groundwater or recycled water. On that basis, the 1,500 acre feet of project water demand would be supplied at the 768 acre foot level by surface water supplies, of which 610 acre feet would be from FID rights, and the balance of by USBR rights.

The UWMP projects no water supply shortfalls during the period up to and including the year 2030. There is water availability to meet project water demands including lake fill and level maintenance just as there would be for annexed development in accord with existing General Plan/zoning designations.

Conclusion: The proposed project will not 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. Therefore, potential adverse impact on groundwater due to the proposed projects will be *less than significant*.

Mitigation Measures: No mitigation measures in addition to those incorporated in the project and project-applicable water conservation regulations and policies are required. However, the Applicant proposes, as conditions of project approval, to implement the following measures to reduce water demands and achieve water demand offset:

- Provide for the ultimate irrigation of all public green spaces with non potable water and install "purple pipe" within those areas. This system could, at a future date, accommodate Title 22 treated effluent for the purposes of irrigation of public green spaces.
- Construct the 55-acre lake feature to accept Title 22 treated effluent, even though a source for such water is not yet available.

Impact #3.8.3(c), (d), (e) - 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, siltation or flooding on- or off-site or create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The project site is relatively flat and the natural slope is to the southwest. Runoff from precipitation currently percolates into the ground or drains into neighboring areas and eventually into drainage basins. According to the Natural Resources Conservation Service (NRCS) Web Soil Survey website, the soils on the project site have a ponding frequency class of "none" meaning that ponding is not probable; the chance of ponding is nearly 0 percent in any year. Due to the proposed project site's level terrain, existing drainage patterns will not be altered in a manner which would result in substantial erosion, siltation or flooding on- or off-site and watercourses (streams/rivers) do not exist within, or near, the project site.

Development of the site will result in the addition of impervious surfaces in the form of buildings, parking areas, roadways, and other paved surfaces. Based on submitted concept plans, the project will result in the creation of up to 404 gross acres of new impervious surfaces, depending upon the amount of landscaping and lot coverage in the final project. This will result in an increase in storm water runoff from the site, and will increase the potential for contaminated runoff to enter FMFCD drainage basins or for drainage basins to overflow and cause flooding. However, the proposed project will be designed to FID, FMFCD and City of Fresno standards to prevent drainage overflow and flooding and the potential for contaminated runoff.

The manmade lake, oriented north-south and one mile in length, will be a recreational amenity and will also detain storm water and incidental flows. The lake will be lined. Water diverted into the manmade lake is proposed to come from FID under a Water Purchase Agreement to be agreed to by FID and the City. Absent such agreement, the water required to supplement storm drainage inflow would be supplied by well(s) drilled for that purpose. The net impact on the area's water resource would be unchanged; only the cost of water supply would be affected. Storm water, after lake detention, will ultimately be discharged into the proposed FMFCD drainage basin to be located south of the project and south of Shields Avenue.

The applicant will be required to submit a grading and drainage plan to FID for approval which will show that the project will not endanger the structural integrity of underground storm water conveyance pipelines, or result in drainage patterns that will adversely affect the FID or the proposed project itself.

Conclusion: Compliance with the adopted regulations of FID, FMFCD and applicable City of Fresno regulations and General Plan policies, as stated in Section 3.8.1 above, will reduce the potential impacts associated with storm water drainage and capacity to a *less than significant* level.

Mitigation Measures: No mitigation measures are required.

Impact #3.8.4(f) - Otherwise substantially degrade water quality.

Storm water runoff leaving the site during construction activities can have a significant impact on water quality. As stormwater runoff leaves the site it can pick up pollutants, such as sediment, debris, or chemicals, and transport these pollutants to nearby stormwater systems, irrigation ditches or natural water conveyance systems, such as rivers or lakes. To address this issue the project applicant must apply for coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater associated with Construction activity (Construction General Permit, 99-08-DWQ). The NPDES program requires construction site operators engaged in clearing, grading, and excavating activities that disturb one acre or more to obtain coverage under an NPDES permit for their stormwater discharges. In order to be granted coverage, the applicant must submit a Notice of Intent to comply with the general permit along with a site plan map and fee to the state Water Resources Control Board (SWRCB) prior to starting construction. Additionally, as part of the NPDES

process, the applicant must prepare a Storm Water Pollution Prevention Plan (SWPPP) according to the latest regulations (effective July 1, 2010) to be retained onsite. The SWPPP must include best management practices that, when implemented, prevent storm water quality degradation to the extent practical by preventing sediments and other pollutants from leaving the project site.

Conclusion: Compliance with the requirement of obtaining coverage under the general permit, and acquisition of a grading permit from the City of Fresno, accompanied by implementation of an approved SWPPP will ensure that water quality impacts related to construction activities are *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.8.5(g), (h) - 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, or place within a 100-year flood hazard area structures which would impede or redirect flood flows.

According to FEMA FIRM map number 06019C1545 H, the project site is located in Zone X which corresponds to areas outside the 100-year floodplain, areas of 100-year sheet flow flooding where average depths are less than one foot, areas of 100-year stream flooding where the contributing drainage area is less than one square mile, or areas protected from the 100-year flood by levees.

Conclusion: The proposed project will have *no impact* with regard to placing housing or structures in a 100-year flood zone.

Mitigation Measures: No mitigation measures are required.

Impact #3.8.6(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.

As described in the Drainage and Flood Control subsection of the existing physical environment in this Section of the EIR the project site and much of the existing City of Fresno are currently deemed to be in an inundation area of a worst-case Friant Dam break. The likelihood of such a break is, given the design of the facility and its continuing surveillance and operation by the Federal Government, so limited as to not be worthy of consideration.

Conclusion: The potential for proposed project site flooding as a result of the failure of a dam is *less than significant*.

Mitigation Measures: No mitigation measures are required.

3.9 Land Use and Planning

INTRODUCTION

This section describes the existing and proposed land uses and relevant land use policies of the City of Fresno pertaining to the proposed project. Pursuant to Section 15125(d) of the CEQA Guidelines, this section also provides a discussion of General Plan consistency and describes the relationship between the proposed project and the General Plan for the City of Fresno. The impact assessment focuses on changes in land use, land use compatibility, and General Plan consistency to the extent that potential general plan conflicts may lead to physical impacts on the environment.

During the Notice of Preparation (NOP) review and comment period, the Fresno County Local Agency Formation Commission (LAFCo) commented that pre-zoning of the proposed project site is required to be completed prior to submittal of an annexation application; detachment from certain districts will be necessary; if annexed, the project will be a City peninsula extending into the unincorporated area; and that the County may recommend annexation of other territories in addition to the subject property in order to ensure more logical or “squared-off” boundaries.

3.9.1 REGULATORY AND PHYSICAL SETTING

Regulatory

The land use planning and zoning authority of local jurisdictions in California are set forth in the state’s planning laws. The project site is located in unincorporated Fresno County, but within the City of Fresno’s Sphere of Influence. The Applicant is proposing to annex the project site into the city limits. For this reason, the analysis of the regulatory setting focuses on the relevant policies of the City of Fresno.

STATE

Subdivision Map Act

The Subdivision Map Act (California Government Code §66410 et seq.) regulates and controls the design and improvement of subdivisions. Any property divided into two or more parcels is subject to the Map Act.

General Plans

California Government Code Section 65300, et seq. establish the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city’s or county’s judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the

general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

Cortese-Knox-Hertzberg Local Government Reorganization ACT

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 consolidates several existing California statutes. The act establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district and city and special district consolidations, according to the Local Area Formation Commission's adopted guidelines and the Act.

California Air Resources Board

The California Air Resources Board (ARB) adopted the Air Quality and Land Use Handbook: A Community Health Perspective (Land Use Handbook) in 2005. The Land Use Handbook provides information and guidance on siting sensitive receptors in relation to sources of toxic air contaminants. The sources of toxic air contaminants identified in the Land Use Handbook are high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities. If the project involves siting a sensitive receptor or source of toxic air contaminant discussed in the Land Use Handbook, siting mitigation may be added to avoid potential land use conflicts, thereby reducing the potential for health impacts to the sensitive receptors.

REGIONAL

Fresno County LAFCo

The Fresno County Local Agency Formation Commission (LAFCo), pursuant to the Cortese-Knox-Hertzberg Act discussed above, is responsible for coordinating changes in local governmental boundaries including annexations, detachments of territory, and incorporations of cities. The Fresno County LAFCo is also charged with developing and updating spheres of influence for each city. Spheres are planning tools used to provide guidance for individual proposals involving jurisdictional changes and are intended to encourage efficient provision of community services and prevent duplication of service delivery. An area must be within a city sphere of influence for a city to annex it. The mission of the Fresno County LAFCo is to encourage the orderly development and reorganization of local government agencies, to preserve agricultural land, and to discourage urban sprawl.

The Fresno County LAFCo reviews annexations, and approves such if they are in conformance with local and State LAFCo regulations. Fresno County LAFCo has adopted the following Standards for Annexation:

- The proposal must be consistent with the adopted sphere of influence of the city and not conflict with the goals and policies of the Cortese-Knox Act;
- The proposal must be consistent with city general plan and specific plans, including adopted goals and policies;
- Pursuant to CEQA, the proposal must mitigate any significant adverse effect on continuing agricultural operations on adjacent properties, to the extent reasonable and consistent with the applicable general and specific plan;
- A proposal for annexation is acceptable if one of the following conditions exist:
 1. There is existing substantial development provided the City confines its area requested to the area needed to include the substantial development and create logical boundaries;
 2. Development exists that requires urban services, which can be provided by the City; and
 3. If no development exists, at least 50 percent of the areas proposed for annexation has:
 - i. Approved tentative subdivision map(s) (Square feet, residential); and
 - ii. Approved site plan (for other uses).
- The proposal would not create islands. Boundaries must ultimately minimize creation of peninsulas and corridors, or other distortion of boundaries.

Items necessary for a complete annexation application include:

- Pre-application meeting with LAFCo and the County;
- Complete and signed LAFCo application form;
- CEQA documents ;
- Letter stating the proposal is consistent with the City/County Memorandum of Understanding (MOU);
- Resolution or petition initiating the proposal;
- Maps (map & legal description, location, vicinity, water, sewer, zoning, tract map/site plan map);
- Landowner consent forms with original signatures;

- Signed affected agency protest waiver forms with original signatures;
- Application fee;
- Service plan; and
- Pre-zoning ordinance.

Fresno County Council of Governments

The Fresno County Council of Governments (Fresno COG) is a voluntary association of local governments, one of California’s 38 regional planning agencies, and one of 500+ nationwide. In 1967 elected officials of Fresno County and its incorporated cities informally created the agency, formalizing Fresno COG in 1969 through a Joint Powers Agreement. Fresno COG undertakes comprehensive regional planning with an emphasis on transportation, provides citizens an opportunity to be involved in the planning process, and supplies technical services to its members.

The Fresno COG establishes population growth estimates and allocates growth among cities via the Regional Housing Need Allocation. The Fresno COG is responsible for the adoption of Regional Transportation Plans (RTP) and is the lead agency for the San Joaquin Valley Blueprint. As the designated metropolitan planning organization (MPO) for the region, Fresno COG prepares and maintains the Federal Transportation Improvement Program (FTIP) and has also been tasked with creating the Sustainable Community Strategy for compliance with Senate Bill 375 [(SB 375) (Steinberg)].

2014 Regional Transportation Plan

The Fresno COG is in the process of preparing the 2014 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). The 2014 RTP is a planning document to be developed by Fresno COG in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the California Department of Transportation (Caltrans), and other stakeholders, including transportation system users.

Following the passage of Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006, which specifies that by the year 2020, greenhouse gas (GHG) emissions within the State must be at 1990 levels, Senate Bill 375 (SB 375) – The Sustainable Communities and Climate Protection Act of 2008 was signed into law as the framework for achieving greenhouse gas emissions reductions from land use and transportation planning.

SB 375 includes four primary findings related to the RTP/SCS development process:

- That the ARB develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Fresno COG;

- That the Fresno COG, during the next RTP update is required to prepare an SCS that specifies how the GHG emission reduction target set by ARB will be achieved. IF the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Fresno COG;
- Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Fresno County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target; and
- Requires that Fresno COG conduct the Regional Housing Needs Assessment (RHNA) process consistent with the RTP/SCS process and that the RHNA allocations be consistent with the development pattern in the SCS.

Although the 2014 RTP/SCS specifically targets GHG emission reductions, strategies that reduce GHG emissions have the co-benefit of also reducing criteria air pollutants.

San Joaquin Valley Regional Blueprint

The San Joaquin Valley Blueprint planning process is a joint effort of the Fresno COG and eight other local agencies, formed with the goal of developing a cohesive regional framework that defines and offers alternative solutions to growth-related issues for the entire Central Valley. The process involves the integration of transportation, housing, land use, economic development, and the environment to produce a preferred growth scenario to the year 2050.

In early 2006 the eight Councils of Governments in the San Joaquin Valley came together to develop a coordinated valley vision – the San Joaquin Valley Regional Blueprint. On April 1, 2009 the San Joaquin Valley (SJV) Regional Policy Council reviewed the Valley COGs’ collaborative work on the Blueprint and took the following actions:

- Adopted a list of Smart Growth Principles to be used as the basis of Blueprint planning in the San Joaquin Valley; and
- Adopted Scenario B+ as the Preferred Blueprint Growth Scenario for the San Joaquin Valley to the year 2050. This preferred scenario will serve as guidance for the Valley’s local jurisdictions with land use authority as they update their general plans.

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District has adopted the Air Quality Guidelines for General Plans (Air Quality Guidelines). The Air Quality Guidelines is a guidance document and resource for cities and counties to use to address air quality in their general plans. It includes goals, policies, and programs for adoption in general plans to reduce vehicle trips, reduce miles traveled, and improve air quality. The City of Fresno incorporated many of the policy suggestions from the San Joaquin Valley Air Pollution Control District in their Air Quality Update of the 2025 Fresno General Plan Resource Conservation Element adopted in 2009.

LOCAL

Fresno County General Plan

The Fresno County General Plan would not be applicable to the project site because it is within the City of Fresno's Sphere of Influence and has been designated for urban development under the City of Fresno General Plan land use designations. The proposed relocation of the Fresno Metropolitan Flood Control District basin outside of the project boundaries would place this new site outside of the City of Fresno's Sphere of Influence and under the regulation of the Fresno County General Plan.

The site proposed for relocation of the flood control basin is designated Agriculture by the Fresno County General Plan. This designation provides for the production of crops and livestock, and for location of necessary agriculture commercial centers, agricultural processing facilities, and certain non-agricultural activities. The maximum allowed residential density is one dwelling unit per 20 acres. The maximum non-residential density is 0.10 Floor Area Ratio (FAR). Ponding basins are an allowed use in agricultural designated areas within the County and the proposed flood control basin will not require a General Plan amendment.

Fresno County Zoning Ordinance

The Fresno County Zoning Ordinance is applicable to 90 acres of the project site that have not been pre-zoned by the City of Fresno. The current County zoning of Exclusive Agriculture District-20 acre parcel (AE-20) would apply to those lands as well as to the proposed site for the relocated drainage basin. The AE District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-related agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district.

City of Fresno General Plan

The 2025 Fresno General Plan (General Plan), adopted on February 2002, is a blueprint for land use and development activities in the Fresno planning area. The General Plan is a long-range, comprehensive planning document that embraces all aspects of existing and future physical development of the community, public and private. The General Plan contains the following elements: Implementation; Regional Cooperation, Urban Form, Economic Development, Public Facilities, Open Space/Recreation, Resource Conservation, Noise and Safety. Each General Plan element contains goals and policies to guide existing and future land use and development activities.

West Area Community Plan

The West Area Community Plan was initiated and adopted within the 2025 Fresno General Plan and is included as an appendix to the 2025 Fresno General Plan. The primary goal of the West Area Community Plan is to develop the West Area as a planned community with a complete range of services and facilities for the needs of community residents, in adherence to a set of specific standards for residential, commercial, industrial, and public infrastructure development, with special emphasis on minimization of land use conflict between agriculture and urban uses.

City of Fresno Zoning Ordinance

Fresno is a charter city that requires that local zoning be consistent with adopted General Plans. The applicant is proposing zoning reclassification for the proposed project site. Approximately 330 acres of the project site has been pre-zoned by the City. A majority of the project size has been pre-zoned for residential uses. The remaining acreage has been pre-zoned for neighborhood shopping center usage and for exclusive, five acre, agricultural uses (see Figure 3.9-3). It should be noted that this prezoning is not in full accord with the 2025 General Plan land uses designated for the area (see Figure 3.9-1).

Pre-zoning is the legal process of placing a city zoning designation on territory or a portion of territory requested for annexation to the city which is located outside the present city limits. All territory included in a proposed annexation to a city without existing development entitlements on territory that is vested or already at build-out shall be pre-zoned prior to consideration of the annexation by the Fresno County LAFCo.

Pre-zoning is required to be completed prior to submittal of an annexation application to the Fresno County LAFCo. The pre-zoning designation will take effect upon annexation.

Existing Land Use Designations

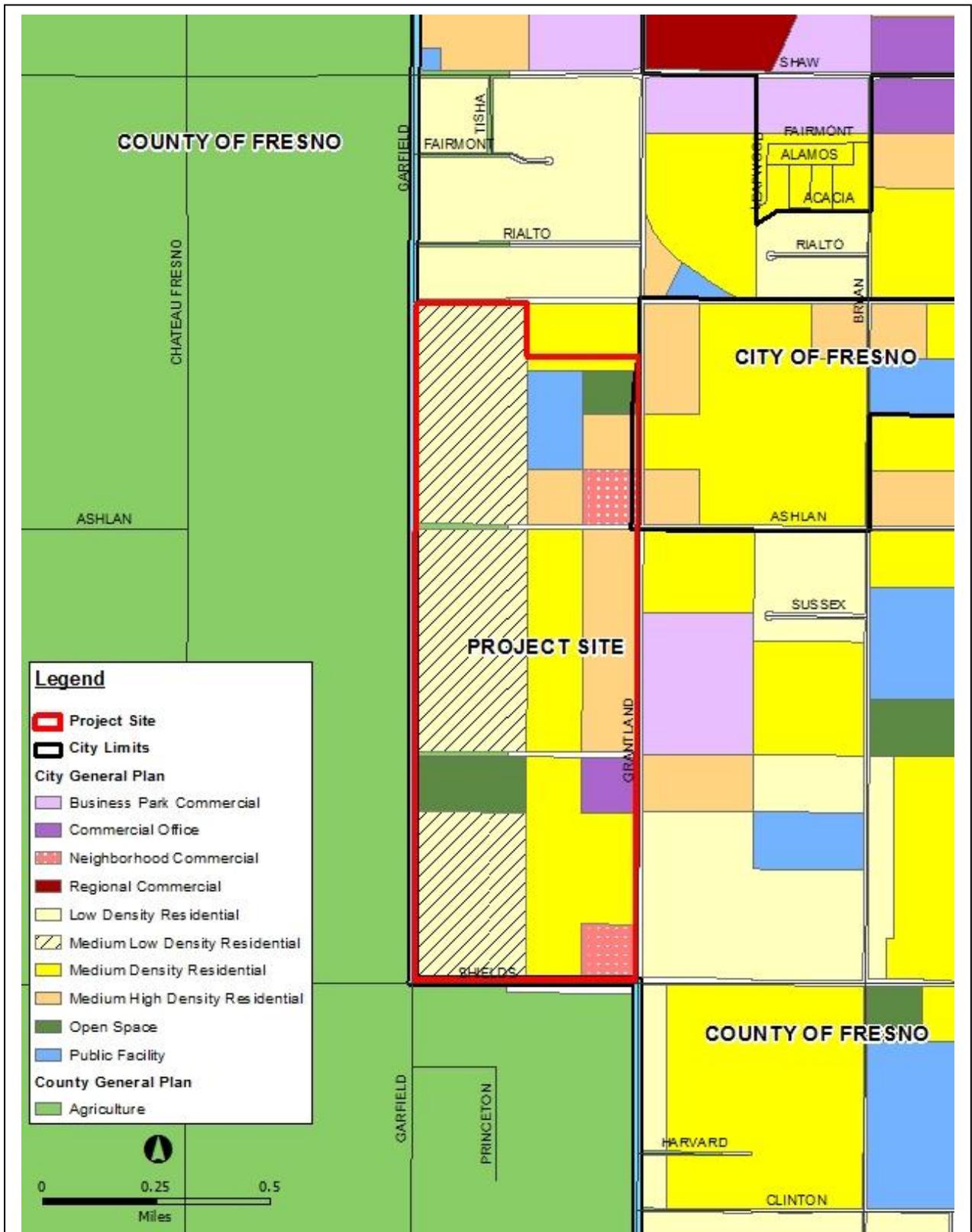
Table 3.9-1 and Figures 3.9-1 through Figure 3.9-3 provide a summary of the existing General Plan land use designations, zoning, and pre-zoning on the project site.

**Table 3.9-1
Existing Project Area Land Use, Zoning Densities -
2025 Fresno General Plan and County Zoning**

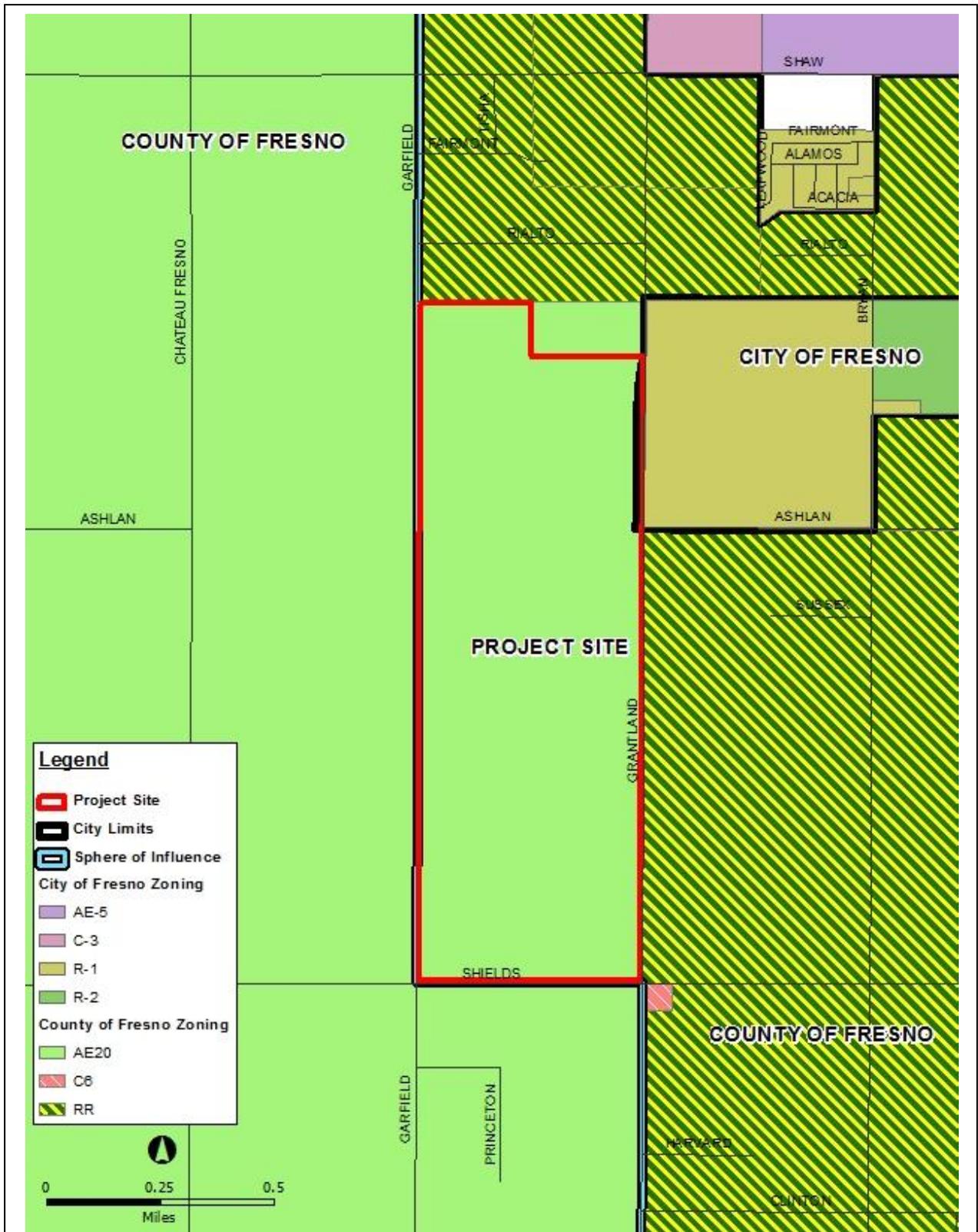
Land Use Designation	Project Area Acreage Prezoned by the City of Fresno		Allowable Density per Acre	Project Area Acreage Not Prezoned by the City of Fresno	
	Acres	Zoning		Acres	Zoning
Medium Low Density Residential	182	R-1/UGM ¹	2.19 to 6.0 DU/acre		
Medium Density Residential	93	R-1/UGM ¹	4.99 to 10.37 DU/acre		
Medium High Density Residential	40	R-2/UGM ¹	10.38 to 18.15 DU/acre		
Neighborhood Commercial	19	C-1/UGM ¹	25% FAR		
Public Facilities (Elementary School)	17	R-1/UGM ¹			
Open Space	19	AE-5/UGM ¹	90	AE-20 (County)	
Total	370		90		
Site Total			460		

¹Until annexation to the City of Fresno, zoned AE-20 (County)

Note: AE20 = Agriculture, 20 acre minimum
FAR = Floor area ratio

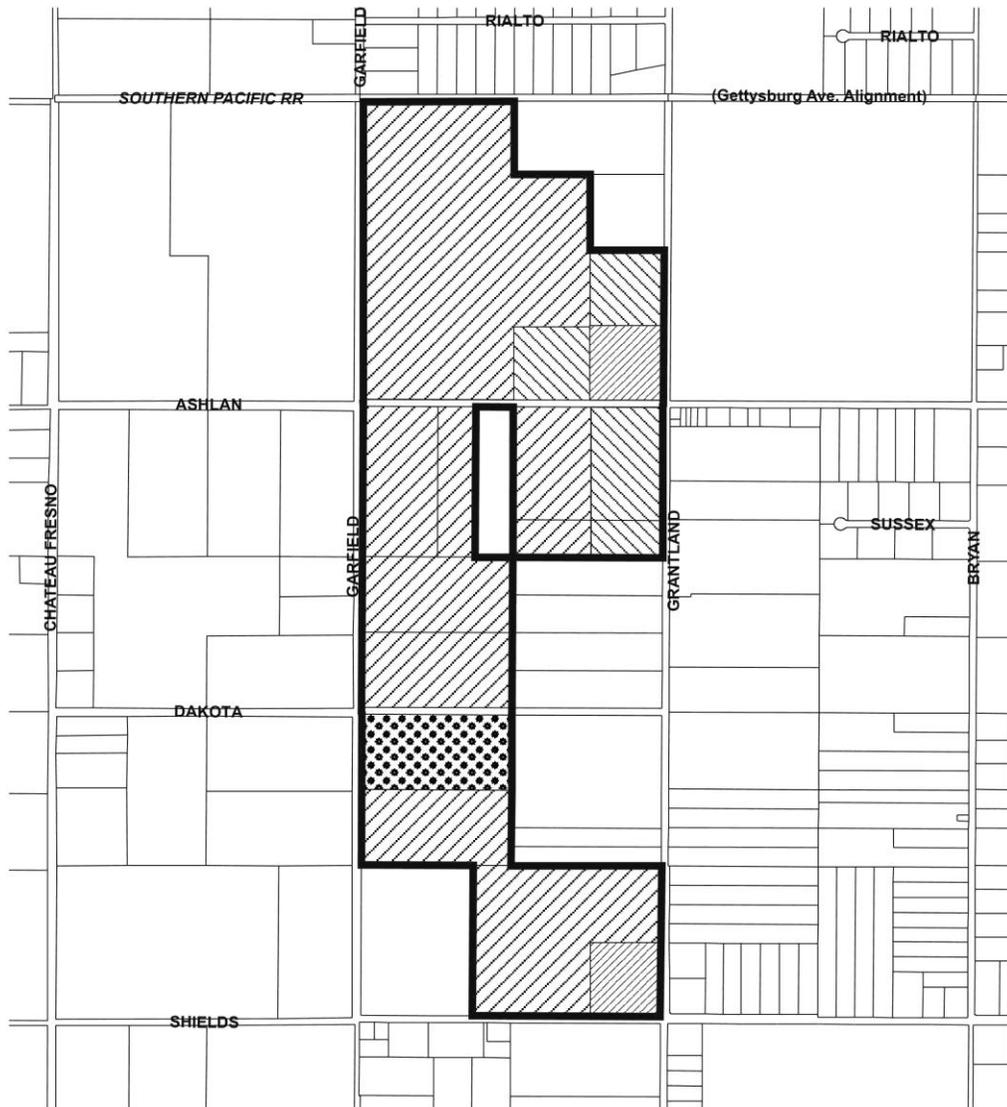


 Quad Knopf	EXISTING GENERAL PLAN LAND USE DESIGNATIONS	Figure 3.9-1
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EXISTING ZONING

Figure 3.9-2



LEGEND

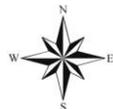
- Subject Property
- From AE-20 (County) to R-1/UGM
- From AE-20 (County) to C-1/UGM
- From AE-20 (County) to AE-5/UGM
- From AE-20 (County) to R-2/UGM

VICINITY MAP

REZONE APPLICATION NO. R-04-081
From AE-20 (County) to AE-5/UGM, R-1/UGM, R-2/UGM, C-1/UGM

PLANNING & DEVELOPMENT DEPARTMENT

311-021-26; 311-043-12S, 13S,
A.P.N.: 14, 15, 17S, 18, 26, 28, 29T



ZONE MAP: 2043, 2143

Btwn Garfield, Grantland, Shields and Gettysburg Aves.

NOT TO SCALE

BY/DATE: J.S. / 10-18-04



APPROVED PREZONING ON PORTION OF WESTLAKE DEVELOPMENT PROJECT SITE

Figure 3.9-3

Approximately 370 acres of the project site have been pre-zoned by the City of Fresno, which would allow upon annexation the following uses:

AE-5—Exclusive Five Acre Agricultural District. The AE-5 District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This District has been created to protect the general welfare of the agricultural community from encroachments of nonregulated agricultural uses which by their nature would be injurious to the physical and economic well-being of the Agricultural District.

The following are the permitted uses in the AE-5 District:

- A. One single family dwelling unit per lot;
- B. Accessory buildings related to permitted uses;
- C. Adult day care facilities for a maximum of six (6) adults when located in a single family dwelling;
- D. Agricultural crops such as the raising of tree, vine, field, forage and other plant life crops of all kinds, except mushroom growing;
- E. Bovine (cow) and equine (horses) animals, where the lot area is one (1) acre or more, shall not exceed four (4) adult animals in any combination of the foregoing animals and their immature offspring. No pen, stable, barn or corral shall be maintained within one hundred (100) feet of any property line or within forty (40) feet of any building used for human habitation unless occupied by the owner or keeper of the animals. Pasturing of these animals is permitted within the above mentioned setbacks;
- F. Family day care homes, small;
- G. Greenhouses, horticultural collections and flower and vegetable gardens, private;
- H. Group housing facility for a maximum of six (6) persons when located in a single family dwelling;
- I. Home occupations as defined in Subsection 12-105-H-7;
- J. Household pets as defined in Subsection 12-105-H-12;
- K. Petroleum products storage, for use by the occupants of the premises but not for resale or distribution;
- L. Poultry raising (limited to hens only), rabbits or similar small furbearing animals, not to exceed twenty-four (24) of any kind or combination thereof, for domestic purposes only provided that no pen, coop, or hutch be located within one hundred (100) feet of any

property line or within forty (40) feet of any residence, dwelling or building used for human habitation;

- M. Roadside stands, temporary, for the sale of agricultural products produced upon the premises; and
- N. Signs, subject to provisions of Fresno Municipal Code Section 12-205.5-K.

The following uses are permitted in the AE-5 District, subject to a conditional use permit pursuant to City Municipal Code Sections 12-405 and 12-406:

- A. Adult day care facilities for seven (7) to twelve (12) adults when located in a single family dwelling, subject to Subsection 12-306-N-42;
- B. Airports, heliports and crop dusting strips, private;
- C. Churches;
- D. Commercial stables and riding academies;
- E. Electric distribution substation;
- F. Electric transmission substation;
- G. Family day care homes, large, subject to compliance with Subsection 12-306-N-42;
- H. Golf course, subject to compliance with Subsection 12-306-N-47;
- I. Group housing facility for seven (7) or more persons when located in a single family dwelling, subject to Subsection 12-306-N-43;
- J. Guest ranches;
- K. Kennels; boarding, training, or breeding;
- L. Microwave relay structures;
- M. Sewage disposal and treatment plants.

The following uses are prohibited in the AE-5 District:

- A. Advertising structures;
- B. Airports, public;
- C. Art, craft, music or dancing schools or business, professional or trade schools or colleges;

- D. Cemeteries, columbaria, crematoriums and mausoleums;
- E. Clubs and lodges, private;
- F. Hospitals;
- G. Manufacturing, service and commercial uses not specifically permitted in Sections 12-205.1 and 12-205.3;
- H. Mills, pulp and saw, and similar establishments for the processing of logs, wood and lumber;
- I. Multiple family residential uses;
- J. Parks, theaters, athletic fields, race tracks, fairgrounds or similar places of amusement;
- K. Radio or television towers or transmitters;
- L. Residential subdivisions; and
- M. Truck yards, terminals or facilities.

R-1 – Single Family Residential District. The R-1 District is intended to provide for the development of one family residential homes at urban standards on lots not less than six thousand (6,000) square feet in area, not more than one (1) dwelling permitted on any lot. All regulations for this District are deemed to be necessary for the protection of the quality of the residential environment and for the securing of health, safety and general welfare of the residents.

The following are the permitted uses in the R-1 District:

- A. One single family dwelling unit per lot, except:
 - 1. In a Planned Development as permitted by Section 12-211.3-H; and
 - 2. A Second Dwelling in accordance with Subsection 12-306-N-38.
- B. Accessory buildings;
- C. Adult day care facilities for a maximum of six (6) adults when located in a single family dwelling;
- D. Family day care homes, small;
- E. Greenhouses, horticultural collections and flower and vegetable gardens, private;

- F. Group housing facility for a maximum of six (6) persons when located in a single family dwelling;
- G. Home occupations as defined in Subsection 12-105-H-7;
- H. Household pets as defined in Subsection 12-105-H-12;
- I. Signs, subject to provisions of Section 12-211.5-K; and
- J. Tract offices, model homes and construction material storage yards of a temporary nature, within the tract being developed.

The following uses are permitted in the R-1 District, subject to a conditional use permit pursuant to Sections 12-405 and 12-406:

- A. Adult day care facilities for seven (7) to twelve (12) adults when located in a single family dwelling, subject to Subsection 12-306-N-42;
- B. Churches;
- C. Electric distribution substation;
- D. Family day care homes, large, subject to compliance with subsection 12-306-N-42;
- E. Farmers Market, subject to the conditions listed in Subsection 12-304-B-25;
- F. Golf course, country club and driving range, subject to compliance with Subsection 12-306-N-47;
- G. Group housing facility for seven (7) or more persons when located in a single family dwelling, subject to Subsection 12-306-N-43;
- H. Libraries, public;
- I. Planned developments, subject to the provisions of Subsection 12-306-N-21;
- J. Schools, parks and playgrounds, public;
- K. Schools, private or parochial, of an elementary, secondary or college level;
- L. Subdivision signs—Off-site, if proposed as specified in Subsection 12-207.5-K-4; and
- M. Water pump stations, subject to the provisions of Subsection 12-306-N-46.

The following uses are expressly prohibited in the R-1 District:

- A. Advertising structures;
- B. Agricultural uses not specifically listed as permitted;
- C. Child day care centers, large;
- D. Commercial uses;
- E. Industrial uses; and
- F. Multiple family residential uses except as permitted by Subsection 12-211.3-G.

R-2 – Low Density Multiple Family Residential District. The R-2 District is intended to provide for the development of low density multiple family residential structures where such buildings are reasonably spaced on the lot to provide for light, privacy, air, safety and insulation against transmission of sound, on lots not less than six thousand six hundred (6,600) square feet in area.

The following uses are permitted in the R-2 District:

- A. Uses permitted in the "R-1" District, Section 12-211.1 shall apply; and
- B. One-family, two-family or multiple-family dwellings on a lot with less than two net acres in area.

The following uses are permitted in the R-2 District, subject to a conditional use permit pursuant to Sections 12-405 and 12-406:

- A. Adult day care facilities for seven (7) to twelve (12) adults when located in a single family dwelling, subject to Subsection 12-306-N-42;
- B. Churches;
- C. Electric distribution substation;
- D. Family day care homes, large, subject to compliance with Subsection 12-306-N-42;
- E. Golf course, country club and driving range, subject to compliance with Subsection 12-306-N-47;
- F. Group housing facility for seven (7) or more persons, subject to Subsection 12-306-N-43;
- G. Libraries, public;
- H. Multiple family projects when the subject site contains two (2) or more net acres in area;

- I. Schools, parks and playgrounds, public;
- J. Schools, private or parochial, of an elementary, secondary or college level;
- K. Subdivision signs—Off-site, if proposed as specified in Subsection 12-207.5-K-4; and
- L. Water pump stations, subject to the provisions of Subsection 12-306-N-46.

The following uses are expressly prohibited in the R-2 District:

- A. Advertising structures;
- B. Agricultural uses;
- C. Commercial uses, including commercial uses such as hotels, apartment hotels, motor courts, motels or other buildings wherein housing facilities are furnished to transient boarders or roomers; and
- D. Industrial uses. (Added Ord. 5748, 1960; Am. Ord. 99-55, § 67, 10-14-99).

C-1 – Neighborhood Shopping Center. The C-1 District is intended to serve as planned unified shopping centers. The stores are intended to fit into the residential pattern of development and create no architectural or traffic conflicts.

The uses listed below are permitted in the C-1 District, additionally, the Planning Director may deem additional uses to be similar and not more obnoxious or detrimental to the public health, safety and welfare. All uses are subject to the property development standards in Section 12-217.5, and Site Plan Review, Section 12-406.

- A. Bakery goods, retail sales only
- B. Bakery, retail
- C. Banks and Savings and Loan Associations
- D. Barbershop
- E. Beauty shop
- F. Bicycle shop
- G. Book stores
- H. Cafeterias
- I. Cleaning and dyeing shop (retail only—dry cleaning clothes in enclosed machines, using noninflammable cleaning compounds)

- J. Clothing stores
- K. Confectionery
- L. Conversion of an existing commercial use to residential use in a residential building where such use is specifically authorized in an applicable specific plan and pursuant to the provisions of the applicable specific plan
- M. Dairy products
- N. Day spa and salon
- O. Delicatessen
- P. Drugstore
- Q. Dry goods
- R. Florist shop
- S. Fruit and vegetable stores
- T. Gift shops
- U. Grocery stores
- V. Hardware stores
- W. Hobby shop (retail)
- X. Ice cream
- Y. Jewelry stores
- Z. Laundry and dry cleaning pick-up agencies for work to be done elsewhere
- AA. Laundry, self-service
- BB. Lunchrooms
- CC. Meat markets
- DD. Music and dance instruction
- EE. Music stores

- FF. Newspaper stands
- GG. Offices:
 - 1. Business
 - 2. Medical
 - 3. Professional
- HH. Photographic supplies
- II. Plant nurseries
- JJ. Radio and television sales and service
- KK. Reducing salon
- LL. Restaurants
- MM. Shoe repair shops
- NN. Shoe stores
- OO. Signs, subject to the provisions of Section 12-217.5-K
- PP. Soft drink fountains
- QQ. Sporting goods
- RR. Stamp and coin broker
- SS. Super drugstore
- TT. Supermarket
- UU. Tanning salon
- VV. Temporary or permanent telephone booths
- WW. Tobacco products
- XX. Variety stores.

The following uses are permitted in the C-1 District subject to a Conditional Use Permit as provided for in Sections 12-405 and 12-406:

- A. Alcohol, the retail sale of, for on- or off-site consumption pursuant to Sections 12-304-B-24 and 12-326, as applicable;

- B. Ambulance Service;
- C. Automobile service station, subject to the provision of Subsection 12-306-N-32;
- D. Car wash, drive-through; as defined in Subsection 12-105-C-6-a;
- E. Electrical distribution substation;
- F. Freestanding electronic variable message board, subject to the provisions of Subsection 12-306-N-55;
- G. Furniture store, having gross floor area of less than 15,000 square feet;
- H. Ice and food products dispensing machines;
- I. Microwave relay structures;
- K. Public parking lot or structure, subject to the provisions of Sections 12-217.5 and 12-306-I;
- L. Restaurant, Drive-In, as defined in Subsection 12-105-R-5.1;
- M. Mixed Use projects pursuant to Section 12-325;
- N. Slot car racing shop;
- O. Subdivision signs, off-site, if proposed as specified in Subsection 12-207.5-K-4;
- P. Tavern, pursuant to Section 12-326; and
- Q. Water pump stations, subject to the provisions of Subsection 12-306-N-46.

The following uses are expressly prohibited in the C-1 District:

- A. New residential uses except as part of a residential/commercial mixed use project. Existing residential uses shall be subject to the provisions of Section 12-317, nonconforming buildings and uses;
- B. Any combination of residential and non-residential uses at the same time, on a lot, or in any structure thereon except as part of a residential/commercial mixed use project;
- C. Advertising structures;
- D. Bars, cocktail lounges, and the like, except as permitted in Section 12-217.3 of this Code;
- E. Industrial uses;

- F. Places providing exhibition dancing and entertainment, drive-ins, and theaters;
- G. Trailer parks; and
- H. Automobile retail sales, subject to the provisions of Subsection 12-306-N-54.

Proposed Land Use Designations

Table 3.9-2 and Figure 3.9-4 provide a summary of the proposed land uses within the project site.

**Table 3.9-2
Proposed Project Site Amendments to the 2025 Fresno General Plan and West Area
Community Plan; Densities**

Proposed Land Use Designation	Gross Acres	Proposed Zoning	Allowable Density/Acre
Medium Low Density Residential	111	R-1/UGM	2.19 to 6.0 DU/acre
Medium Density Residential	196	R-1/UGM	4.99 to 10.37 DU/acre
Medium High Density Residential	34	R-2/UGM	10.38 to 18.15 DU/acre
Neighborhood and Community Commercial	27	C-1/UGM & C-2/UGM	25% FAR
Roadways, Lake Feature, Open Space	<u>92</u>	O/UGM & R-1/UGM	
Total: 460			

These land uses and zoning would become effective upon annexation of the site to the City of Fresno.

The R-1, R-2, and C-1 zone districts were described previously; however, the proposed project would include two additional zone districts: O-Open Conservation District and C-2-Community Shopping Center District.

The allowed uses in those two zone districts are described below.

O-Open Conservation District. The O-Open Conservation District is intended to provide for permanent open spaces in the community and to safeguard the health, safety and welfare of the people by limiting developments in areas where police and fire protection, protection against flooding by storm water and dangers from excessive erosion are not possible without excessive costs to the community.

The following uses are permitted in the O District:

- A. Agricultural uses provided that no dwellings, either temporary or permanent, be permitted in relation thereto;
- B. Fisheries;
- C. Flood control channels, spreading grounds, settling basins, freeways, parkways and park drives;
- D. Signs, subject to provisions of Section 12-204.5-K; and
- E. Wildlife preserves, forest preserves and such buildings and structures as are related thereto.

The following uses shall be permitted in the "O" District, subject to a conditional use permit pursuant to Sections 12-405 and 12-406:

- A. Caretaker's dwelling and necessary accessory buildings;
- B. Manufacture of concrete products, including hot mix plants, batching plants, or the use of asphalt or petroleum products;
- C. Microwave relay structures;
- D. Recreation areas, parks, and playgrounds;
- E. Removal of natural resources other than as provided for in Section 12-204.3-F, subject to the applicable regulations of Article 5.5 of Chapter 12 of this Code;
- F. Surface mining operations subject to the provisions of Article 5.5 of Chapter 12 of this Code;
- G. Temporary logging camps; and
- H. Temporary sawmills and planing mills.

The following uses are expressly prohibited in the O District:

- A. Advertising structures;
- B. Commercial uses other than those related to and under the regulations of City, County, State, or Federal Recreational Agencies;
- C. Industrial uses, excepting as listed in Section 12-204.1 and 12-204.3; and

D. Residential uses, except as provided for in Section 12-204.3-A above.

C-2-Community Shopping Center District. The C-2 District is intended to serve as a planned unified shopping center for a community.

The uses listed below are permitted in the C-2 District, additionally, the Planning Director may deem additional uses to be similar and not more obnoxious or detrimental to the public health, safety and welfare. All uses are subject to the property development standards in Section 12-218.5, and Site Plan Review, Section 12-406.

- A. Those uses permitted in the "C-1" District, Section 12-217.1
- B. Ambulance Service
- C. Appliance sales (Household)
- D. Banks
- E. Beauty colleges, subject to the provisions of Section 12-306-I-2
- F. Bicycle shops
- G. Bowling alleys
- H. Building and loan offices
- I. Carnival-promotional
- J. Department stores
- K. Furniture stores
- L. Garden supplies
- M. Health foods
- N. Hobby shops
- O. Indoor electronic tagging game facility
- P. Jewelry stores
- Q. Millinery
- R. Notions

- S. Offices:
 - 1. Administrative
 - 2. General
- T. Pet shops
- U. Post offices
- V. Radio and television sales and service
- W. Restaurant, Drive-In, as defined in Subsection 12-105-R-5.1
- X. Signs, subject to provisions of Section 12-218.5-K
- Y. Stationery stores
- Z. Super drugstores
- AA. Supermarkets
- BB. Toy stores
- CC. Tropical fish raising
- DD. Used merchandise sales, subject to the provisions of Section 12-306-N-41

The uses below are permitted in the C-2 District subject to a Conditional Use Permit as provided for in Sections 12-405 and 12-406.

- A. Alcohol, the retail sale of, for on- or off-site consumption, pursuant to Sections 12-304-B-24 and 12-326, as applicable
- B. Automobile accessory parts (new) retail sales
- C. Automobile service station, subject to the provisions of Subsection 12-360-N-32
- D. Banquet Hall
- E. Car wash:
 - 1. Drive-through; as defined in Subsection 12-105-C-6-a
 - 2. Mechanical; as defined in Subsection 12-105-C-6-b
- F. Electrical distribution substation

- G. Family Restaurant, Game and Entertainment Center, subject to provisions of Section 12-306-N-37
- H. Freestanding electronic variable message board, subject to the provisions of Subsection 12-306-N-55
- I. Ice and food products dispensing machines
- J. Microwave relay stations
- K. Motion picture theaters as defined in Subsection 12-105-M-10
- L. Night Club, pursuant to Sections 12-326 and 12-327
- M. Pool and billiards parlor in conjunction with a restaurant, subject to the provisions of Subsection 12-306-N-31
- N. Public parking lot or structure, subject to the provisions of Sections 12-218.5 and 12-306-I
- O. Mixed Use projects pursuant to Section 12-325 of this Code
- P. Small animal veterinary hospitals and clinics, within a completely enclosed building, with no boarding except as is incidental to medical care, subject to provisions of Sections 12-306-I and 12-306-N
- Q. Subdivisions signs—Off-site, if proposed as specified in Subsection 12-207.5-K-4
- R. Tavern, pursuant to Section 12-326
- S. Tire, battery, and accessory retail sales and service store
- T. Thrift Shops, subject to the provisions of Subsection 12-306-N-36
- U. Video game arcades, subject to the provisions of Subsection 12-306-N-35
- V. Water pump stations, subject to the provisions of Subsection 12-306-N-46

Urban Growth Management Area

The proposed project is located in an area identified by the City zoning map as an Urban Growth Management Area. The Urban Growth Management Area is generally located in and around the city's fringe and is either relatively undeveloped or is predominantly agricultural in use and lacks most, if not all, municipal facilities, improvements, or services necessary to serve residential, commercial, industrial, or other type of development.

The zoning district symbol of any land located in the Urban Growth Management Area shall bear the suffix "UGM", until such time as such land is removed from such Area, for the purpose of placing the general public on notice that any construction or modification of buildings or structures in such area, or the change of occupancy of such buildings or structures, or the division of land in such Area, may be subject to the Urban Growth Management Process or some similar process.

An integral part of Urban Growth Management is a process referred to as the Urban Growth Management Process. The Urban Growth Management Process is intended neither to prevent any development or growth nor to permit free or disorganized development or growth in the Urban Growth Management Area. Such process is instead intended to identify the demands on municipal facilities, improvements, or services created by any proposed residential, commercial, industrial, or other type of development and to provide the means for satisfying such demands; to identify any deleterious effects of any such development and protect the city and its residents against such effects by minimizing the costs of municipal facilities, improvements, and services; and to maintain a high quality of such facilities, improvements, and services.

Before any building permit is issued to build, construct, erect, or modify any building or structure on land within the Urban Growth Management Area, or to change the occupancy of any such building or structure, a Service Delivery Plan shall have been prepared and incorporated into the tentative tract map or special permit conditions of approval except as otherwise provided in Section 12-4.505 of the Fresno Municipal Code.

Physical Setting (Existing)

The Sphere of Influence (SOI) is established by the LAFCo following consultation with, and joint approval by, Fresno County and the City of Clovis. The SOI is generally recognized as the 20-year urban growth boundary for the community, is the primary tool to regulate ultimate growth and growth direction, and provides the basis for public facility planning.

The site is currently (January, 2013) fallow farmland. Previously, this land had been in agricultural production for decades with a mixture of orchard and row crops. The project site is within the adopted Sphere of Influence (SOI) of the City of Fresno and is planned for a variety of urban uses (See Table 3.9-1), however the relocated drainage basin would be outside the SOI. The project site is outside the corporate limits of the City of Fresno, but will be proposed by the applicant for annexation approval by the Fresno County Local Agency Formation Commission. The relocated drainage basin may not be included in the annexation proposal.

Much of the land surrounding the project site is in agricultural production or occupied by rural residential homes and ancillary structures. The CUSD Deran Koligian Education Center is located proximate to the proposed project site east of Grantland Avenue and south of Ashlan Avenue. Large lot single-family homes are located adjacent to, and north of, the project site along West Rialto Avenue.

The City's General Plan currently designates the project site as Medium Low, Medium and Medium High Density Residential, Neighborhood Commercial, Commercial Office, Public Facility (elementary school), Open Space, and Neighborhood Park (reference Figure 3.9-1).

The proposed project includes the following actions/entitlements:

- The annexation of approximately 460 acres from Fresno County into the City limits;
- A General Plan Amendment changing some of the land use designations (reference Figure 3.9-1 and Table 3.9-1);
- Pre-zoning. Pre-zoning is required to be completed prior to submittal of an annexation application; it will take effect upon annexation;
- A request for approval of the vesting tentative tract map for the broad scale division of the property into 28 residential, commercial, and open space/recreation parcels. (The vesting tentative tract map will be implemented with multiple tentative and final maps during the pre-construction phase of the project and filed at a later date);
- A Project Conditional Use Permit (CUP) (to be filed at a later date), and Development Agreement as requested by the applicant, to provide for flexibility in the application of development standards. The Project CUP will help define the theme of Westlake and provide details of project design and development standards;
- Approval to relocate and revise the shape of designated drainage basin 'CD' and revise drainage district boundaries for drainage basins 'CD' and 'CG';
- Detachment from the Kings River Conservation District; and
- Detachment from the North Central Fire Protection District.

IMPACT EVALUATION CRITERIA

The CEQA Guidelines set forth criteria for the determination of whether a project will have a significant impact on land use and planning. A project's effect will normally be considered significant if it will:

- 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 community conservation plan.*

The Initial Study concluded that the proposed project would have no impact regarding physically dividing an established community or conflicting with a habitat conservation plan or natural community conservation plan. These issues will therefore not be discussed further in this Draft EIR.

3.9.2 IMPACT ANALYSIS

Impact #3.9.1 – 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.

The following addresses applicable plan, policy or regulation provisions and analyzes proposed project consistency with applicable plans, policies or regulations. If inconsistency between the proposed project and plans, policies, or regulations is concluded, a determination is made as to whether the inconsistency would result in a potentially significant impact.

Fresno County General Plan

The Westlake Development has been designated for urban uses by the City of Fresno General Plan. However, the proposed project calls for the relocation of drainage basin CD to an area south of the project site. This area is outside the City's SOI and is designated by the County of Fresno as Agriculture.

Ponding basins are an allowed use in agricultural designated areas within the County; as such the proposed use would not conflict with the Fresno County General Plan. Accordingly, this would be a less than significant impact.

City of Fresno General Plan Consistency

The project requires a general plan amendment, which is evaluated in detail below. In addition, the project's consistency with the applicable goals and policies of the General Plan is analyzed.

CITY OF FRESNO GENERAL PLAN AMENDMENT

According to the City's General Plan, the site is currently designated Medium Low, Medium and Medium High Density Residential, Neighborhood Commercial, Commercial Office, Public Facility (elementary school), Open Space, and Neighborhood Park (reference Figure 3.9-1). The proposed project is seeking a General Plan Amendment to remove the land designated for public facilities and increase residential and neighborhood and community commercial land uses. As shown in the following sections, the proposed land uses of the project will be consistent with the overall intent of the City's General Plan and West Area Community Plan's objectives and policies encouraging a range of services and facilities for residents in adherence to specific

standards for various land uses, and minimization of land use conflicts between agricultural and urban uses. Therefore, the General Plan Amendment would have a less than significant impact.

**Table 3.9-3
Summary of General Plan Amendment**

Existing		Proposed	
Land Use Designation	Acreage	Land Use Designation	Acreage
Medium Low Density Residential	221	Medium Low Density Residential	111
Medium Density Residential	105	Medium Density Residential	196
Medium High Density Residential	61	Medium High Density Residential	34
Commercial Office	11	-	-
Neighborhood Commercial	19	Neighborhood and Community Commercial	27
Public Facilities (Elementary School)	17	-	-
Open Space	26	Roadways, Lake Feature, Open Space	92
Total	460	Total	460

GENERAL PLAN CONSISTENCY ANALYSIS

Upon approval of the General Plan Amendment, the project site would be designated for Medium Low Density Residential, Medium Density Residential (of which 12 acres is planned for an elementary school), Medium High Density Residential, Neighborhood and Community Commercial, Roadways, Lake Feature, and Open Space.

Figure 3.9-5 shows the proposed Tentative Subdivision Map Tract No. 5915. Table 3.9-4 provides the tentative densities for Tract Map No. 5915. As shown in Table 3.9.5, the total development shown on the Tract Map would be less than what is analyzed in this Draft EIR. The Draft EIR evaluates 2,600 residential dwelling units and 295,000 square feet of commercial uses. Tract Map No. 5915 represents an average of the densities that would be achieved.



TENTATIVE TRACT MAP NO. 5915

Figure 3.9-5

**Table 3.9-4
Tentative Tract Map No. 5915 Densities**

Lot #	Area (Acres ±)	Proposed General Plan Designation	Proposed Zoning	DU/AC Density	Units Proposed
1	8.15	Medium	R-1/UGM	7	57
2	8.40	Medium	R-1/UGM	7	59
3	12.1	Medium	R-1/UGM	7	84
4	14.6	Medium	R-1/UGM	7	102
5	11.3	Medium	R-1/UGM	7	79
6	9.6	Medium	R-1/UGM	7	67
7	14.4	Medium	R-1/UGM	7	101
8	8.7	Medium	R-1/UGM	7	61
9	12.0	Med/School	R-1/UGM	7	84
10	8.3	Medium Low	R-1/UGM	5	42
11	5.9	Mixed Use	R-1/UGM	*	44 du/32,071 sf
12	7.0	Medium Low	R-1/UGM	5	35
13	6.3	Medium Low	R-1/UGM	5	32
14	12.8	Medium Low	R-1/UGM	5	64
15	11.6	Medium Low	R-1/UGM	5	58
16	11.6	Medium Low	R-1/UGM	5	58
17	6.65	Medium Low	R-1/UGM	5	100
18	4.04	Community Commercial	C-2/UGM	25% coverage	43,996 sf
19	12.9	Medium Low	R-1/UGM	5	64
20	10.83	Medium	R-1/UGM	7	76
21	17.6	Medium	R-1/UGM	7	123
22	14.1	Community Commercial	C-2/UGM	25% coverage	153,440 sf
23	13.3	Medium High	R-2/UGM	15	200
24	11.6	Medium High	R-2/UGM	15	175
25	12.0	Medium	R-1/UGM	7	84
26	13.1	Medium	R-1/UGM	7	92
27	13.0	Medium	R-1/UGM	7	91
28	5.6	Neighborhood Commercial	C-1/UGM	25% coverage	60,984
29	18.7	Medium	R-1/UGM	7	131
Outlot A	55.8	Open Space	Total		2,163 du 290,491 sf

du = dwelling unit sf = square feet

Source: Gary G. Giannetta Civil Engineering and Land Surveying, Tentative Tract Map No. 5915

Table 3.9-5 shows the proposed land use designation for the project and demonstrates that based on the densities provided in Table 3.9-4, the proposed project land uses would be consistent with the proposed General Plan designations as described in Table 2-Planned Land Use and Zone District Consistency Matrix in the City of Fresno General Plan.

**Table 3.9-5
Consistency with City of Fresno General Plan Land Use and Zone Districts**

Proposed Land Use Designation	Gross Acres	Proposed Zoning	Allowable Density/Acre¹	Project Density	Consistent
Medium Low Density Residential	111	R-1/UGM	2.19 to 4.98 DU/acre	5	Yes
Medium Density Residential	196	R-1/UGM	4.99 to 10.37 DU/acre	7	Yes
Medium High Density Residential	34	R-2/UGM	10.38 to 18.15 DU/acre	16	Yes
Neighborhood and Community Commercial	27	C-1/UGM & C-2/UGM	25% FAR	25% FAR	Yes
Roadways, Lake Feature, Open Space	<u>92</u>	O/UGM & R-1/UGM			Yes
Total	460				

Source of allowable density: City of Fresno General Plan Table 2 – Planned Land Use and Zone District

Table 3 Underlying/Alternative Land Uses for Designated Public School in the City of Fresno General Plan provides alternative land uses for sites that have been designated for school sites. The proposed project would relocate an identified elementary school site. The underlying alternative land use for that parcel is Medium Density Residential. The proposed project would be consistent with that alternative.

Table 4 Underlying/Alternative Land Uses for Designated City Park Sites in the City of Fresno General Plan provides alternative land uses for sites that have been designated for park sites. The proposed project would change this designation to Medium Density Residential, which would be consistent with the alternative land use identified in the General Plan.

Table 7 Secondary Uses of FMFCD Basins for Recreation and Recharge in the City of Fresno General Plan identifies drainage basins in the General Plan service area and the planned/proposed secondary uses of the Basin. According to the General Plan the secondary usage was undetermined. The Fresno Metropolitan Flood Control District’s Master Service Plan Update in 2009 also did not identify a secondary use. The proposed project would relocate the drainage basin and would maintain the required drainage capacity; as such it would not conflict with the Flood Control District’s Service Plan.

Table 3.9-6 summarizes the proposed project’s consistency with all applicable objectives, goals, and policies of the General Plan. As shown in the table, after the implementation of the various mitigation measures identified in this Draft EIR, the proposed project would be consistent with applicable objectives, goals, and policies.

**Table 3.9-6
General Plan Consistency Analysis**

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
1 – Purpose of the General Plan and General Plan Goals	Goal 1	Enhance the quality of life for the citizens of Fresno and plan for the projected population within the moderately expanded Fresno urban boundary in a manner which will respect physical, environmental, fiscal, economic, and social issues.	Consistent: The proposed project will provide a unique “Master Planned” community that will provide residents with a variety of housing opportunities with a range of densities, commercial development, recreational opportunities, and alternative forms of transportation. Accordingly, the proposed project will enhance the quality of life for Fresno residents in a manner that respects physical, environmental, fiscal, economic, and social issues.
	Goal 2	Pursue coordinated regional planning with Fresno and Madera Counties and the City of Clovis.	Consistent: The project site is contemplated for urban development by the General Plan and, therefore, the development of urban uses on the project site will be considered planned growth. Moreover, the proposed project will develop a mix of uses (commercial, recreational, and residential) and be accessible to vehicles, bicycles, and pedestrians. These characteristics are consistent with regional planning objectives.
	Goal 4	Promote a partnership among citizens, industry, and government, which fosters well-planned and efficiently processed development.	Consistent: The City of Fresno has provided opportunities for input concerning the proposed project, including through the California Environmental Quality Act process.
	Goal 5	Support the Growth Alternatives Alliance “Landscape of Choice-Principles and Strategies” based upon the Ahwahnee Group Principles, both of which are included in the Appendix	Consistent: The proposed project incorporates a number of concepts identified in “A Landscape of Choice,” including providing convenient and safe pedestrian linkages, and providing bicycle and pedestrian facilities. The proposed project will locate commercial and residential land uses in close proximity, which would offer jobs next to housing. Mitigation Measure #3.3.1j in Section 3.3, Air Quality of this Draft EIR requires future site plans for the project site to include pedestrian and bicycle infrastructure.
	Goal 6	Coordinate land uses and circulation systems to promote a viable and integrated multi-modal transportation network.	Consistent: The proposed project will provide community-oriented retail uses and jobs located next to housing, and convenient access to pedestrian and bicycle facilities pursuant to MM #3.3.1j..
	Goal 7	Manage growth to balance Fresno’s urban form while providing an adequate public service delivery system, which is fairly and equitably financed.	Consistent: The project will pay all required impact fees to mitigate adverse impacts to public services and utilities. Refer to Section 3.12 Public Services and 3.15 Utilities.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
1 – Purpose of the General Plan and General Plan Goals	Goal 8	Provide opportunity for a variety of affordable housing throughout the Metropolitan Area.	Consistent: The project will designate land for various densities that will allow developers to offer single family and multiple family housing options. The provision of new housing options will help to ensure that the City has adequate housing availability, thus encouraging housing affordability.
	Goal 9	Provide activity centers and intensity corridors within plan areas to create a mix of land uses and amenities to foster community identity and reduce travel.	Consistent: The proposed project will provide a Community Center (clubhouse, Activity Center), and will locate commercial, recreational, and residential uses to create a mix of land uses and amenities to foster community identity and reduce travel.
	Goal 10	Provide quality open space, park and recreational facilities and programs to support the projected population.	Consistent: The proposed project will feature a 55-acre lake that will serve as a focal point for recreational activities as well as provide common amenities, such as the clubhouse. The project will provide pedestrian and bicycle linkages (pursuant to MM #3.3.1j) within the development to allow residents access to recreational opportunities. The proposed project will also pay its fair share for park facilities and in-lieu fees for the residential portion of the project.
	Goal 11	Protect, preserve, and enhance significant biological, archaeological, paleontological resources, and critical natural resources, including, but not limited to, air, water, agricultural, soils, minerals, plants, and wildlife resources.	Consistent: The proposed project includes mitigation to ensure that air, biological, archaeological, paleontological, and water resources are protected. Refer to Sections 3.2, 3.3, 3.4, 3.5, and 3.8 in this EIR for further discussion.
	Goal 12	Develop urban design strategies to improve Fresno’s visual image and enhance its form and function.	Consistent: The proposed project will comply with City design requirements, and documents and drawings will be submitted for review by City staff in accordance with the zoning ordinance. The proposed project will locate jobs next to housing, develop community-oriented retail uses, and be accessible to pedestrians and bicycles. (See MM 3.3.1j.) As such, the project would improve the overall form and function of the urban environment.
	Goal 13	Plan for a healthy business and diversified employment environment, and provide adequate timely services to ensure Fresno is competitive in the marketplace	Consistent: The project will designate land use for neighborhood and community shopping. These commercial uses would offer employment opportunities to residents within the City of Fresno and services to the community of Westlake.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
1 – Purpose of the General Plan and General Plan Goals	Goal 14	Protect and improve public health and safety	Consistent: The proposed project will provide new employment, housing, and retail opportunities and does not possess any characteristics that could potentially harm public health and safety (e.g., handling hazardous materials). In addition, the project will pay its fair share of citywide police and fire fees.
	Goal 15	Recognize, respect, and plan for Fresno’s cultural, social, and ethnic diversity	Consistent: The proposed project will provide new employment, housing, and retail opportunities that would be accessible to all persons and organizations.
	Goal 16	Work cooperatively with the local agricultural industry to conserve prime farmland and respect its importance as Fresno County’s base economic resource	Consistent: The project site is designated for urban development, but is located adjacent to existing agricultural uses and has been used for agricultural production in the past. The project will employ the use of buffers at the interface of urban development and farmland, such as roadways, to minimize conflict between urban and agricultural uses.
4C – Urban Form Element	Goal 17	Encourage fiscal and local agency planning policies that will assist in the annexation of the unincorporated county islands within the City of Fresno’s Sphere of Influence.	Consistent: The project is within the City of Fresno’s Sphere of Influence but will require annexation to the City.
	C-1 Objective	Establish a comprehensive planning strategy to achieve the efficient and equitable use of resources; to provide for the optimum level of public facilities and services; and to realize an attractive and desirable living environment within the City of Fresno's moderately expanded sphere of influence and planned urban boundary.	Consistent: The project will contribute its fair-share of impact fees for public services and facilities and will provide an attractive living environment within the City’s Sphere of Influence .
	C-1-a. Policy	Support and pursue all reasonable efforts to include within the City of Fresno's incorporated boundaries the entire area contained within its present urban boundary and ultimately within the expanded urban boundary.	Consistent: The project is located within the City’s Sphere of Influence and will be annexed to the City to include it within the City’s incorporated boundaries.
	C-1-b. Policy	Ensure that all portions of the metropolitan area receive a consistent and comparable level of public services and facilities; participate equitably in the cost of	Consistent: As discussed in Section 3.12, Public Services of this EIR, the project will pay its fair-share of impact fees to ensure that adequate public services and facilities are provided.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		providing public services and facilities; and have equal access to the decision making processes that govern the quality of services and facilities enjoyed by the community.	
	C-2. Objective	Establish a comprehensive general plan that provides for an optimal arrangement of land uses, transportation systems, public facilities and other physical features; that defines the character and quality of life desired within the metropolitan area; and that identifies the guiding principles to determine appropriate development, revitalization and preservation actions within the nine community plan areas consistent with a planning framework of managed. peripheral growth, increased economic opportunities and redirected emphasis toward multiple activity centers and a high intensity central corridor.	Consistent: The proposed project is located within the City’s Sphere of Influence and is designated for urban development. The project will provide a unique master planned community within the West Area Community Plan boundaries. The project will provide a variety of housing densities, recreation, shopping, and employment opportunities.
4C – Urban Form Element	C-2-k. Policy	Establish a comprehensive planning strategy for the West Area Community Plan area (Appendix W) to support an emerging urban community within an area that has been historically subjected to inconsistent planning and development policies as an unincorporated semirural component of the metropolitan area.	Consistent: The project will be master planned to provide housing, recreation, shopping, and employment opportunities. Development will occur in accordance with the City’s General Plan and Zoning Ordinance to ensure the adequate provision of city services, facilities, and utilities.
	C-2-1. Policy	Manage urban development to enhance the vitality, appeal, and value of the entire metropolitan area by establishing a linkage impact fee applicable to new development located on the city's fringe that will contribute to the construction of appropriate urban infrastructure improvements within the established urban core communities comparable to those constructed within the city's fringe areas.	Consistent: The project will pay Urban Growth Management fees for parks, sewer, water, police, and fire.
	C-8. Objective	Facilitate the development of mixed uses to blend residential,	Consistent: The project will develop a mix of uses (commercial, recreational, and residential).

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		commercial and public land uses on one site.	
	C-8-c. Policy	Create an appropriate environment for the inclusion in mixed-use development of higher density single-family residential dwellings, senior housing, a small open space, and community facilities.	Consistent: The project will develop a mix of residential densities and will provide common community facilities.
	C-9. Objective	Plan for the diversity and quality of residential housing, at locations necessary to provide for adequate and affordable housing opportunities. Housing patterns should support balanced urban growth, and should make efficient use of resources and public facilities.	Consistent: The project will develop a variety of housing opportunities and is located within the City’s Sphere of Influence. The project will contribute its fair-share of impact fees to ensure that adequate public facilities are provided.
	C-9-j. Policy	Medium density residential land shall be developed to maximize efficient use and affordability of residential property through a wide range of densities. New residential projects within this land use category should not be permitted to be developed at a density no less than the minimum shown in Table 2 in order to better achieve the goals of the city's Housing Element.	Consistent: The project includes medium density residential land uses and will be developed in accordance with the City’s density designations.
4C – Urban Form Element	C-9-k. Policy	Medium-high density residential uses shall be distributed to maximize utilization of available or planned public facilities and services and to provide housing opportunities with convenient access to employment, shopping, services, and transportation.	Consistent: The project will be developed with medium-high density residential land uses and will be located near community commercial shopping opportunities and employment. The project will pay impact fees to ensure that adequate public facilities are provided.
	C-10. Objective	Promote the development of more compact pedestrian friendly, single-family residential projects to aid in the conservation of resources such as land, energy, and materials.	Consistent: The project will include bikeways and pedestrian paths. Mitigation Measure #3.3.1j in Section 3.3, Air Quality of this Draft EIR requires future site plans for the project site to include pedestrian and bicycle infrastructure.
	C-11. Objective	The city will employ multi-family residential densities to meet housing needs in an affordable, balanced fashion.	Consistent: The proposed project will designate land uses for a variety of densities, some of which can support multiple family housing.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
	C-11-a. Policy	Prefer multi-family housing in designated activity centers and along intensity corridors.	Consistent: Although the project site is not a designated activity center, the site will provide a mix of land uses and will provide shopping and employment opportunities.
	C-12. Objective	Commercial land uses shall be classified, located, sized, and developed to meet needs for goods and services while minimizing travel requirements, infrastructure demands, and adverse impacts.	Consistent: The project will designate land use for neighborhood and community shopping. These commercial uses would service the community of Westlake. Locating shopping near residences is a recommended land use strategy by the SJVAPCD to reduce vehicle miles traveled.
	C-12-a. Policy	Ensure that all commercial land uses are developed and maintained in a manner complementary to and compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment and to be compatible with public facilities and services.	Consistent: The project includes the designation of land uses for residential and commercial uses. These land uses would be developed in an integrated manner. The City may impose conditions on future site plans through its Design Guidelines and Municipal Code to ensure compatibility.
	C-12-d. Policy	Plan for the appropriate location, size, and distribution of neighborhood and community commercial uses to implement the planned urban form, promote the stability and identity of neighborhood and community areas, and allow efficient access without compromising the operational effectiveness of planned major streets.	Consistent: The project would designate land uses for neighborhood and community commercial and residential uses in close proximity. These land use designations would allow for future development that would locate jobs next to housing, develop community-oriented retail uses, and be accessible to pedestrians and bicycles.
	C-20. Objective	As part of the city’s project review process, major emphasis will be given to site and building design in order to - preserve functionality and community aesthetics.	Consistent: The project would designate land uses for neighborhood and community commercial uses as well as for residential uses. These land uses would allow for the integrated development of commercial retail and residential uses on the project site. The project will be designed and reviewed in accordance with City standards for design.
4C – Urban Form Element	C-20-d. Policy	Development projects shall be designed with appropriate layouts that provide sufficient areas for all proposed activities, for support functions, and for efficient and safe vehicular and pedestrian access.	Consistent: The project will develop community commercial and residential uses in an integrated development on the project site. The project will install internal pedestrian and bicycle connections pursuant to MM 3.3.1j.
	C-20-e. Policy	Development projects shall include aesthetic measures which support functionality and add to the	Consistent: The project will develop community commercial and residential uses in an integrated development on the project site.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		appearance and livability of the community.	The City may impose aesthetic conditions on future site plans through its Design Guidelines and Municipal Code.
	C-20-f. Policy	The project developer shall provide a set of documents and drawings that will allow assessment of the final building product. Materials, texture, and colors shall be noted on the original special permit drawings and on construction plans.	Consistent: The project will comply with city design requirements and documents and drawings will be submitted as the project develops.
	C-21-a. Policy	An architectural theme shall be established for each development, including visually enhanced architectural features and building materials (which shall be applied throughout the development, particularly where visible to street frontages and adjacent properties).	Consistent: The development of the project will include integrated and unified building design in accordance with City design standards. The City may impose aesthetic conditions on future site plans through its Design Guidelines and Municipal Code.
	E-1-e. Policy	Utilize results of the Council of Fresno County Governments transportation modeling process to determine circulation network and capacity deficiencies resulting from land use decisions made in the general plan update process, community plan updates, and major plan amendments proposed for development projects.	Consistent: The Traffic Impact Study prepared for the project utilized the most recent modeling provided by the Fresno Council of Governments.
4E - Public Facilities Element	E-1-f. Policy	Allow a Level of Service “D” (LOS “D”) as the acceptable level of traffic congestion on major streets. LOS “D” according to the Caltrans and COFCG accepted LOS criteria, as developed by the Florida Department of Transportation, means moderate congestion at peak traffic periods; approaching unstable flow with reduced speeds, limited maneuverability, and loss of convenience; average speeds range from 9 to 17 miles per hour on arterials with stopped delays of 40 seconds or less.	Consistent: Under existing conditions, a number of roadways in the project vicinity operate at LOS E or worse, which is below acceptable levels. The proposed project would contribute additional vehicle trips to these roadways and, therefore, would be required to implement feasible mitigation to minimize its impacts. The project would also provide fee payments to the City for transportation improvements. Because the proposed project would implement all feasible mitigation and provide fee payments, it is consistent with the intent of this policy to minimize traffic congestion. To the extent that any inconsistency with the policy results in a physical impact, refer to Section 3.14, Transportation for further discussion.
4E - Public Facilities Element	E-1-j. Policy	Provide areas for pedestrian and other non-motorized travel that enhance the safety, utilization, and	Consistent: Mitigation Measure #3.3.1j in Section 3.3, Air Quality of this Draft EIR

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		efficiency of the street system. Pedestrian travel should be encouraged as a viable mode of movement throughout the metropolitan area by providing safe and convenient pedestrian facilities in new and existing urban areas and particularly within the Central Area and urban core community centers.	requires future site plans for the project site to include pedestrian and bicycle infrastructure.
	E-1-1.	All commercial and office development should be linked with pedestrian, bicycle, and transit facilities.	Consistent: The project will provide pedestrian and bicycle transportation pursuant to MM 3.3.1j.
	E-1-m.	Achieve greater pedestrian accessibility to commercial uses from nearby neighborhoods.	Consistent: The project will connect the commercial uses with the residential neighborhoods of the Westlake development via the project trail system.
	E-1-n.	Safe access and mobility for the physically impaired must be implemented in the design of all pedestrian facilities.	Consistent: All project-related pedestrian facilities will be required to comply with the Americans With Disability Act, pursuant to City Standards, which would ensure that safe access and mobility is provided for the physically impaired.
	E-10o.	For new single-family residential subdivisions, sidewalks are required on both sides of local residential streets.	Consistent: The subdivision approval will require consistency with this plan policy.
	E-2.	Maintain a coordinated land use and circulation system that conforms to planned growth, minimizes traffic conflicts, reduces impacts on adjacent land uses, and preserves the integrity of existing neighborhoods.	Consistent: The subdivision approval process will require consistency with this plan policy. The project will provide a master planned community with convenient access to major roadways and pedestrian and bicycle linkages within the development (MM 3.3.1j).
	E-2-a.	Pursue the implementation of Transportation Demand Management and Transportation System Management strategies, as identified by land use and air quality policies and actions of this plan, to reduce peak hour traffic demands and supplement the capacity of the transportation system.	Consistent: Large employers on the project site will be subject to the San Joaquin Valley Air Pollution Control District’s Rule 9410-Employer Based Trip Reduction, additionally, the City may require the preparation of a Transportation Demand Management plan as a condition of approval for Conditional Use Permits. In addition, the proposed will provide pedestrian and bicycle facilities onsite to provide alternative transportation (MM 3.3.1j).

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
4E - Public Facilities Element	E-2-b.	Minimize vehicular and vehicle-pedestrian conflicts on major streets and adjacent land uses through use of traffic design and control measures that reduce congestion and increase safety.	Consistent: The project will mitigate its traffic impacts by providing improvements to intersections such as signalization and the provision of additional turn lanes (See Section 3.14 Transportation/Traffic of this Draft EIR). Additionally, the project would employ traffic calming measures onsite, such as traffic circles to enhance pedestrian safety.
	E-2-c.	Control access through limitation on the number of intersections, driveways, and median island openings.	Consistent: As shown in Figure 2.6, access to the project will be limited to six access points.
	E-2-d.	Require design measures to mitigate noise and safety concerns along major streets such as adequate building setbacks, frontage roads, landscaping and noise barriers, particularly for residential and other noise-sensitive uses.	Consistent: The project will employ noise attenuation measures and landscaping to protect residential land uses from adverse noise impacts. See Section 3.10, Noise of this Draft EIR.
	E-2-f.	Require the completion of a comprehensive traffic impact study for all proposed plan amendments of five acres or more in size or in accordance with traffic impact study guidelines (including minimum project size) as may be established by the City of Fresno.	Consistent: A traffic study was prepared as part of this EIR and is provided in its entirety in Appendix I. Refer to Section 3.14, Transportation for further discussion.
	E-2-i.	Multiple-family residential, commercial, institutional, industrial, and office projects shall be designed such that related traffic will not route through local residential streets.	Consistent: The project site is conveniently located with easy access to major roadways and would not route traffic through local residential streets.
	E-2-k.	Require the design of local streets to provide efficient circulation and allow convenient access while protecting neighborhoods from the intrusion of through traffic.	Consistent: The project site is conveniently located with easy access to major roadways and would not route traffic through local residential streets.
	E-2-l.	Utilize the model local residential street standards in the “Livable Neighborhood Development” implementation guideline of October 2001 (prepared by Growth Alternatives Alliance for “A Landscape of Choice”) for guidance in revision of Fresno’s local residential street types to achieve	Consistent: Although this project is not part of a program to revise local street types, the proposed project incorporates a number of concepts identified in “A Landscape of Choice,” including infill development, locating jobs next to housing, providing convenient and safe pedestrian and bicycle linkages.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		overall objectives of calming traffic, promoting pedestrian use and reducing the amount of land devoted to streets.	
4E - Public Facilities Element	E-3. Objective	Provide for efficient fiscal management and administration of the streets and highways service delivery system.	Consistent: The project will pay its required street impact fees and make necessary improvements. Refer to Section 3.14, Transportation.
	E-3-c. Policy	The cost of constructing the major street system should be applied to new development consistent with state and federal laws.	Consistent: The project will pay its required street impact fees and make necessary improvements. Refer to Section 3.14, Transportation.
	E-3-e. Policy	Pursue Urban Growth Management (UGM) policies so that the widening and extension of major streets necessary to achieve adequate vehicular capacity is completed concurrently with the development project that requires the additional capacity.	Consistent: The project will pay its required UGM fees. Refer to Section 3.14, Transportation.
	E-18. Objective	Ensure provision for adequate trunk sewer and collector main capacities to serve existing and planned urban development and economic diversification, including existing developed uses not presently connected to the public sewer system consistent with the Wastewater Master Plan.	Consistent: As discussed in Section 3.15, Utilities, the project will pay its fair-share of UGM fees for sewer and will be required to make necessary improvements to accommodate the project as determined by the Public Works Director. The project is located in an area designated for urban development and within the planned Sewer System Management Plan.
	E-18-b. Policy	Pursue enlargement or extension of the sewage collection system where necessary to serve planned urban development including eh designated North and Southeast Growth Areas, with the capital costs and benefits allocated equitably and fairly between the existing users and new users while facilitating economic diversification. New users shall, to the extent not inconsistent with economic diversification strategies, pay for the cost of being attached to the collection system through connection fees, including the cost of any incremental burden that they may place on the entire system and pay for their share of operational	Consistent: The project is located in an area designated for urban development and within the planned Sewer System Management Plan. The project will pay required UGM fees for sewer and make necessary improvements to accommodate the project as determined by the Public Works Director.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		and maintenance costs in addition to any costs for extraordinary facilities such as lift stations or capacity enhancement measures.	
	E-18-d.	Determine that adequate trunk sewer capacity exists or can be provided to serve proposed development prior to the approval of rezoning, special permits, tract maps, and parcel maps so that the capacities of existing facilities are not exceeded.	Consistent: Adequate trunk sewer capacity can be provided to serve the project as discussed in Section 3.15, Utilities. The project will pay required UGM fees for sewer and make necessary improvements to accommodate the project as determined by the Public Works Director.
4E - Public Facilities Element	E-20. Objective	Ensure the provision of adequate sewage treatment and disposal by utilizing the Fresno-Clovis Regional Wastewater Treatment and Reclamation Facility as the primary facility, when economically feasible, for all existing and new development within the metropolitan area.	Consistent: Adequate treatment capacity exists to serve the project. The project will pay required connection fees to ensure that the City can continue to provide adequate capacity for development.
	E-22. Objective	Manage and develop the City of Fresno’s water facilities to ensure a safe, economical, and reliable water supply for existing and planned urban development and economic diversification.	Consistent: A Water Supply Assessment (Appendix G) was conducted and concluded that the proposed project would have adequate water resources, according to the UWMP.
4E - Public Facilities Element	E-22-b. Policy	Set adequate and appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities are in place prior to occupancy.	Consistent: Pursuant to the City of Fresno General Plan Public Facilities Element and Resource Conservation Element, the City’s Urban Water Management Plan and other project-applicable water conservation regulations and policies, the project will be conditioned to include water conservation measures.
	E-22-f. Policy	New development and connections to the city’s water supply and distribution system shall pay for the cost of being attached to the water system through connection fees and for the cost that they place on the entire water system including treatment, production, distribution, recharge and conservation and/or provide for the installation of public facilities and participate in capital improvement financing programs necessary to accommodate new	Consistent: The project will pay fair-share fees to be connected to the system and for the cost place on the entire water system.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		development, consistent with economic diversification strategies.	
	E-22-1. Policy	Evaluate new development proposals and entitlement activities in light of the conclusions and recommendations of the Fresno Metropolitan Water Resource Management Plan.	Consistent: A Water Supply Assessment (Appendix G) was prepared for the project which utilized the more recent UWMP adopted by the City of Fresno in 2008. The conclusion of the Water Supply Assessment was the project will have adequate resources according to the UWMP.
	E-23. Objective	Provide facilities to protect lives and property from stormwater runoff hazards.	Consistent: The project will implement Best Management Practices to handle stormwater runoff, refer to Section 3.8 Hydrology and Water Quality.
	E-23-a. Policy	The Storm Drainage and Flood Control Master Plan of the Fresno Metropolitan Flood Control District (FMFCD) shall be consistent with and incorporated in the general plan including updating and revising as necessary to accommodate intensified urban uses within established areas and development within the designated North and Southeast Growth Areas. Planned stormwater drainage basin locations are identified by the 2025 General Plan Land Use and Circulation Map (Exhibit 4) and those storm water drainage basins not yet acquired by FMFCD have been assigned alternative land use designations as shown on Table 6.	Consistent: The General Plan land use map will be amended to show the redesignation of the CD drainage basin to urban uses.
	E-23-i. Policy	The City of Fresno shall work with the Fresno Metropolitan Flood Control District to prevent and reduce the existence of urban stormwater pollutants to the maximum extent practical, and ensure that surface and groundwater quality, public health and the environment will not be adversely affected by urban runoff, pursuant to the requirements of the National Pollution Discharge Elimination Systems (NPDES) Act.	Consistent: The project will implement Best Management Practices to handle stormwater runoff and protect water quality. Refer to Section 3.8 Hydrology and Water Quality.
4E - Public Facilities Element	E-24. Objective	Provide the level of law enforcement and crime prevention services necessary to maintain a	Consistent: The proposed project would be able to be served with adequate police services. Additionally, the proposed project will pay its

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		safe, secure, and stable urban living environment through a police department that is dedicated to providing professional ethical, efficient and innovative service with integrity, consistency and pride.	fair share of Citywide police fees. Refer to Section 3.12, Public Services and Section 3.15, Utilities for further discussion.
	E-24-b. Policy	Facilitate Police Department participation in the implementation of general plan policies, including citizen participation efforts, the application of crime prevention design measures to reduce the exposure of neighborhoods to nonresidents and to promote community surveillance of common areas.	Consistent: The City routes all development projects through the police department for their review and comment. The project will incorporate recommended measures.
	E-25. Objective	Ensure that the fire Department’s staffing and equipment resources are sufficient to implement all requests for fire and emergency service from the citizens of Fresno.	Consistent: The proposed project would be able to be served with adequate fire services. Refer to Section 3.12, Public Services for further discussion.
	E-25-a. Policy	Utilize the procedures and criteria contained within the Urban Growth Management (UGM) Policy and Ordinance to provide an equitable means through which the provision of fire service can be addressed throughout the UGM area including the planned North and Southeast Growth Areas.	Consistent: The project will pay UGM fees to ensure the adequate provision of fire services and facilities.
	E-27-c. Policy	Continue Fire Department review of all development proposals in order to ensure the inclusion of adequate on-site and off-site fire protection provisions.	Consistent: The City routes all development projects through the fire department for their review and comment. The project will incorporate recommended fire protection measures.
	E-27-e. Policy	Continue to ensure that adequate water supplies and hydrants are available for fire suppression within all existing urban areas as well as newly developing areas.	Consistent: The proposed project would be able to be served with adequate fire suppression. In addition, the proposed project will pay fair-share citywide fire facilities fees. Refer to Section 3.12, Public Services for further discussion.
	E-28. Objective	Cooperate with and encourage all school districts within the metropolitan area to provide the educational facilities and programs necessary to meet the needs of the area’s student population.	Consistent: The project is located within the Central Unified School District and a 12-acre parcel within the project boundaries is designated for an elementary school site. The District indicated that an additional elementary school will be necessary to meet the projected enrollment of students. The project will be

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
4G - Resource Conservation Air Quality and Global Climate Change	G-1A-a. Policy	As affirmed by Resolution of the City Council on April 9, 2002, implement the list of Reasonably Available Control Measures (RACM) submitted by the San Joaquin Valley Air Pollution Control District (SJVAPCD) to the Environmental Protection Agency as part of the Ozone Attainment Plan designed to reduce ozone forming emissions from operations and/or services the city controls.	required to pay school facilities fees. See public school impact discussion in Section 3.12.3. Consistent: This EIR evaluates potential air quality impacts associated with the proposed project and identifies mitigation where necessary to ensure that the list of Reasonably Available Controls Measures is implemented. SJVACPD comments were considered and are required mitigation imposed on the project. Refer to Section 3.3, Air Quality for further discussion.
	G-1A-c. Policy	<p>Preserve reasonable compatibility between Federal/State Air Quality Attainment and Maintenance Plans and the Fresno General Plan and its resulting urban development through the following implementation measures:</p> <ol style="list-style-type: none"> (1) Develop and incorporate air quality maintenance considerations in the preparation and review of land use plans and development proposals. (2) Maintain internal consistency within the general plan between policies and programs for air quality resource conservation and the policies and programs of other general plan elements. (3) Utilize appropriate computer models (software recommended by San Joaquin Valley Air Pollution Control District or other air quality agencies) to evaluate air quality impacts of projects that require environmental review by the City of Fresno. (4) Information regarding land use plans, development projects, and amendments to development regulations will continue to be routed to the San Joaquin Valley Air Pollution Control District for that agency's review and comment on potential air quality impacts. 	Consistent: This EIR evaluates potential air quality impacts associated with the proposed project and identifies mitigation where necessary to ensure that the proposed project is compatible with the Federal Air Quality Attainment and Maintenance Plans and the Fresno General Plan. Refer to Section 3.3, Air Quality for further discussion.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
4G - Resource Conservation Air Quality and Global Climate Change	G-1B Objective	In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take timely and necessary actions to achieve and maintain reductions in greenhouse gas emissions in order to limit and prevent potential human-caused global climate change and the related potential detrimental affects upon public health and welfare of present and future residents of the community.	Consistent: This EIR evaluates Greenhouse Gases in accordance with CEQA Guidance provided by the San Joaquin Valley Air District. The project achieved the recommended reduction in greenhouse gas emissions. Refer to Section 3.16, Greenhouse Gases.
	G-1B-a	<p>Establish and uphold planning criteria and environmental analysis protocols that evaluate potential greenhouse gas (GHG) emissions from public and private projects and provide useful reduction and mitigation strategies through implementation measures including the following:</p> <p>(1) When reviewing private and public projects, City departments shall incorporate global climate change analysis and mitigation measures as prescribed by the updated Public Resources Code Sections and CEQA Guidelines promulgated under provisions of Senate Bill 97 (2007), and shall utilize thresholds of significance or applicable alternative analysis strategies (such as qualitative application of performance standards), adopted by the San Joaquin Valley Unified Air Pollution Control District, the California Office of Planning and Research, and the California Environmental Protection Agency. After the Office of Planning and Research adopts revisions to the California Environmental Quality Act Guidelines and processes to assess global climate change, the City shall consider amendments to Fresno Municipal Code Chapter 12, Article 5, the Environmental Quality Ordinance of the City of Fresno.</p>	Consistent: This EIR evaluates Greenhouse Gases in accordance with CEQA Guidance provided by the San Joaquin Valley Air District and guidelines issued by the Office of Planning and Research. See Section 3.16.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
4G - Resource Conservation Air Quality and Global Climate Change	G-1B-b	<p>Increase efforts to incorporate GHG emission reductions in land use decisions, facility design, and operational measures subject to City regulation through implementation measures such as the following:</p> <p>(4) The City shall utilize guidance from the Institute for Local Government (refer to General Plan Appendix I), California Attorney General’s Office (refer to General Plan Appendix J), California Air Pollution Control Officers Association (refer to the 2008 CEQA and Climate Change publication and its updates), and other sources of technical guidance in determining appropriate and feasible mitigation measures which may be incorporated into land use plans, development projects and City operations to achieve GHG emission reductions.</p> <p>(6) In order to prevent possible increases in vectorborne illnesses that may be associated with global climate change, the City shall incorporate its “Guidelines for Ponding Basin / Pond Construction and Management to Control Mosquito Breeding” as conditions of approval on any project which utilizes an on-site stormwater basin.</p>	<p>Consistent: The project results in a 36.5 percent decrease in greenhouse gas emissions as a result of regulatory measures and mitigation measures. See Section 3.16.</p>
4G - Resource Conservation Air Quality and Global Climate Change	G-1-B-c.	<p>Prioritize energy and water conservation through the following implementation measures, while maintaining public health and safety standards, utilizing the most current versions of the City’s Urban Water Management Plan and Metropolitan Water Resources Management Plan as source documents for data and for prioritizing actions:</p> <p>(1) Within a reasonable period of time from adoption of General Plan Resource Element / Air Quality Objective G-1B, the City shall initiate a process to revise land use policies, ordinances, development</p>	<p>Consistent: The project includes energy and water conservation measures as outlined in Section 6.6 – Energy Conservation and Section 3.8 – Hydrology.</p>

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		standards and landscape/shading standards to incorporate appropriate water conservation, water recycling, and recharge measures into private and public project analysis and design (e.g., requiring installation of dual color-identified plumbing that would accommodate future use of recycled water for landscaping).	
4G - Resource Conservation Air Quality and Global Climate Change	G-1B-d. Policy	Maintain current levels of achievement for recycling and reuse of all types of waste material in the City, and further enhance waste and wastewater management practices to further achieve reductions in greenhouse gas emissions through implementation measures such as the following: (1) The City shall continue to require provisions for recyclable material collection and storage areas to be incorporated into all residential development designs, and within one year from adoption of General Plan Resource Element / Air Quality Objective G-1B shall consider expanding this requirement to all industrial facilities, sizing the recycling area for industrial development according to the anticipated types and amounts of recyclable material generated.	Consistent: The project will provide for recyclable material collection and storage areas in accordance with City standards.
	G-1B-f. Policy	The City shall continue to enhance landscaping, consistent with energy and water conservation principles. (1) As additional technical information becomes available, the City shall evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.	Consistent: Landscaping for the project will be required to comply with the City’s Model Water Efficient Landscape Ordinance.
4G - Resource Conservation Element	G-3. Objective	Protect water resources in the area from further degradation in quality.	Consistent: The project includes measures to protect water quality. Refer to Section 3.8, Hydrology and Water Quality of this EIR.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
Water Resources			
	G-3-c. Policy	Support continued efforts to identify and mitigate detriments to surface and ground water quality that may result from stormwater discharge from urbanized areas.	Consistent: The project will implement stormwater quality protection measures during construction and operation. Refer to Section 3.8, Hydrology and Water Quality of this EIR.
	G-3-e. Policy	Support and encourage actions of the Regional Water Quality Control Board, the State Environmental Protection Agency, and the local health department to control and prevent water contamination, including leaking underground storage tank (LUST) and abandoned storage tank abatement programs.	Consistent: There are no LUSTs on the site. The project includes stormwater quality protection measures during construction, to prevent contamination from storage tanks, which are consistent with federal, state, and local water quality requirements. Refer to Section 3.8, Hydrology and Water Quality for further discussion.
	G-4. Objective	Manage, use, and replenish water resources to maintain a balanced “water budget” in the Fresno area.	Consistent: A Water Supply Assessment (Appendix G) was conducted and concluded that the proposed project will have adequate water resources. Conservation measures will be implemented pursuant to MEIR requirements.
	G-4-c. Policy	Address localized groundwater deficiencies and groundwater quality problems that exist or may arise in portions of the planning area.	Consistent: A Water Supply Assessment (Appendix G) was conducted which cited the UWMP. The conclusion of this review was the project will have adequate water resources, according to the UWMP. There are no known localized groundwater problems at the project site.
4G - Resource Conservation Element	G-4-f. Policy	Adequate and appropriate conditions of approval will be set for each development project proposal to ensure long-term maintenance of adequate clean water resources and to ensure that necessary potable water production and supply facilities are in place to serve the project prior to occupancy.	Consistent: Conditions of approval will be set for the project, and it has been determined by the Water Supply Assessment (Appendix G) that the project will have adequate water resources.
Water Resources			
4G – Resource Conservation Element	G-5. Objective	While recognizing that the County of Fresno retains the primary responsibility for agricultural land use policies and the protection and advancement of farming operations, the City of Fresno will support efforts to preserve agricultural land outside of the area planned for urbanization and outside of the city's public service delivery	Consistent: The project is located within the City’s Sphere of Influence and within planned public service delivery plans. Accordingly, the development of the project would not be unplanned growth outside the area planned for urbanization.
Agricultural Land			

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		capacity by being responsible in its land use plans, public service delivery plans, and development policies.	
	G-5-b. Policy	Plan for the location and intensity of urban development in a manner that efficiently utilizes land area located within the planned urban boundary, including the North and Southeast Growth Areas, while promoting compatibility with agricultural uses located outside of the planned urban area.	Consistent: The project site is designated for urban development and is within the City’s Sphere of Influence. The project employs the use of buffers to promote compatibility between urban and agricultural uses.
	G-5-c. Policy	The City of Fresno shall encourage project development proposals that result in the infilling of the existing urban area.	Consistent: The project is located within the City’s Sphere of Influence and is designated for urban development. There are existing urban uses adjacent to the project site.
	G-5-d. Policy	New urban development should be compact within the constraints of service capability to conserve land resources and forestall conversion of agricultural land by preventing urban sprawl.	Consistent: The project is located within the City’s Sphere of Influence and is designated for urban development. The project can be adequately served by City services.
	G-6-c. Policy	Where possible, major streets will be utilized as boundaries between areas designated for urban development and agriculture.	Consistent: The project utilizes streets surrounding the project site as buffers between the development and existing agricultural operations.
	G-6-d. Policy	When land proposed for urban development directly abuts actively farmed land that is under an agricultural preservation contract which has not had an application for cancellation filed, nor a Notice of Nonrenewal, appropriate design features need to be incorporated into the development project to buffer the agriculture and urban interface. Design features should include the following, or equivalent measures, to create an adequate buffer:	Consistent: The project is not located adjacent to land under an agricultural preservation contract. The project employs the use of buffers to limit conflicts between agricultural and urban uses.
		<ul style="list-style-type: none"> ▪ wider building setbacks with fencing; and ▪ designated open space (including but not limited to: densely landscaped strips, full-width multi-use trails or 	

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		bikeways, on-site flood control, drainage or recharge facilities) and/or boundary streets.	
4G – Resource Conservation Element	G-10-c. Policy	Unique prehistoric resource sites shall be considered as those archaeological and paleontological sites which:	Consistent: The project includes mitigation to ensure that unique prehistoric resources sites are protected. Refer to Section 3.5, Cultural Resources for further discussion.
Historic Resources		<ul style="list-style-type: none"> ▪ Contain information needed to answer important scientific research questions; and ▪ Have special quality or unique features, such as being the oldest, largest, or most complete example of a particular type of site or are directly associated with a scientifically recognized prehistoric or historic event or person. 	
	G-11-d. Policy	Prehistoric resources (those containing archaeological and paleontological material) shall be protected.	Consistent: The project includes mitigation to ensure that unique prehistoric resources sites are protected. Refer to Section 3.5, Cultural Resources for further discussion.
	G-11-e. Policy	<p>If the site of a proposed development or public works project is found to contain unique prehistoric (archaeological or paleontological) resources, and it can be demonstrated that the project will cause damage to these resources, reasonable efforts shall be made to permit any or ail of the resource to be scientifically removed, or it shall be preserved in situ (left in an undisturbed state). In situ preservation may include the following options, or equivalent measures:</p> <ul style="list-style-type: none"> ▪ Amending construction plans to avoid prehistoric resources; ▪ Setting aside sites containing these resources by deeding them into permanent conservation easements; ▪ Capping or covering these resources with a protective layer of soil before building on the sites; 	Consistent: The project includes mitigation to ensure that unique prehistoric resources sites are protected. Refer to Section 3.5, Cultural Resources for further discussion.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		<ul style="list-style-type: none"> ▪ Incorporating parks, green space, or other open space in the project, to leave prehistoric sites undisturbed and to provide a protective cover over them; and ▪ In order to protect prehistoric resources from vandalism or theft, their location shall not be publicly disclosed until or unless the site is adequately protected. 	
4G - Resource Conservation Element	G-12. Objective	To provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat resources in the Fresno area by protecting, improving, and restoring these resources.	Consistent: This EIR identifies mitigation measures to avoid or minimize impacts on special status species and habitats. Refer to Section 3.4, Biological Resources.
Native Plants and Wildlife	G-12-d. Policy	Projects that could adversely affect rare, threatened, or endangered wildlife and vegetative species (or may have impacts on wildlife, fish, and vegetation restoration programs) may be approved only when findings are made by the California Department of Fish and Game (and the U. S. Fish and Wildlife Service, as appropriate) that adequate mitigation measures are incorporated in the project’s design.	Consistent: This EIR identifies mitigation measures to avoid or minimize impacts on special status species and habitats. Refer to Section 3.4, Biological Resources.
4H - Noise Element	H-1. Objective	Protect the citizens of the city from the harmful and annoying effects of exposure to excessive noise.	Consistent: This EIR identifies mitigation measures to prevent the exposure of residents to excessive noise. Refer to Section 3.11, Noise.
	H-1-a. Policy	New noise-sensitive land uses impacted by existing or projected future transportation noise sources shall include mitigation measures so that resulting noise levels do not exceed the standards shown in Table 8 of the General Plan.	Consistent: The proposed project will employ noise attenuation measures, required as mitigation, to ensure that resulting noise levels of the project will not exceed the standards shown in Table 8 of the General Plan. Refer to Section 3.10, Noise for further discussion.
	H-1-b. Policy	For purposes of city analyses of noise impacts, and for determining appropriate noise mitigation, a significant increase in ambient noise levels is assumed if the project causes ambient noise levels to exceed the following:	Consistent: After mitigation, the proposed project is not expected to exceed General Plan policy standards. Refer to Section 3.10, Noise for further discussion.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		<ul style="list-style-type: none"> ▪ The ambient noise level is less than 60 dB Ldn and the project increases noise levels by 5 dB or more; ▪ The ambient noise level is 60-65 dB Ldn and the project increases noise levels by 3 dB or more; and ▪ The ambient noise level is greater than 65 dB Ldn and the project increases noise levels by 1.5 dB or more. 	
4H - Noise Element	H-1-c. Policy	The city shall review new public and private development proposals to determine conformance with the policies of this Noise Element	Consistent: This EIR evaluated the project’s conformance to policies of the Noise Element and incorporated mitigation measures as necessary to ensure compliance. Refer to Section 3.10, Noise.
	H-1-d. Policy	The city shall require an acoustical analysis in those cases where a project potentially threatens to expose existing or proposed noise-sensitive land uses to excessive noise levels. The presumption of potentially excessive noise levels shall be based on the location of new noise-sensitive uses to known noise sources or staff’s professional judgment that a potential for adverse noise impacts exists. Acoustical analyses shall be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of building permits. The requirements for the content of an acoustical analysis are established by the Planning and Development Department in conjunction with environmental health agencies.	Consistent: An acoustical analysis has been prepared as part of this EIR. Refer to Section 3.10, Noise for further discussion.
	H-1-g. Policy	The city shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure	Consistent: After mitigation, the proposed project would comply with the Noise Insulation Standards and the Uniform Building Code.

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		for multi-family housing, hotels and motels.	
4I - Safety Element Fire Hazards	I-2-a. Policy	Maintain and enforce the latest adopted California Building Code and Uniform Fire Code standards to ensure safe processing and storage of hazardous materials.	Consistent: The project will be required to comply with the California Building Code and Uniform Fire Code.
4I – Safety Element Seismic and Geologic Hazards	I-3-a. Policy	The City of Fresno shall enforce the latest adopted Uniform Building Code and the Dangerous Building Ordinance (Article 12 of Fresno Municipal Code, Chapter 12) to ensure seismic protection for new and existing construction.	Consistent: The project will comply with the most recent Uniform Building Code and the Dangerous Building Ordinance (Article 12 of Fresno Municipal Code, Chapter 12).
	I-3-d. Policy	Development shall be prohibited in areas where analysis by a registered civil engineer or registered geologist determines that no corrective measures could feasibly mitigate potential geologic hazards.	Consistent: The soils located on the project site are suitable for development of the project, however a design-level geotechnical study will be required prior to issuance of grading permits. Refer to Section 3.6, Geology.
4I – Safety Element Flooding Hazards	I-5-e. Policy	Ensure implementation of land grading and development policies which protect area residents from flooding caused by urban runoff produced by events which exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities.	Consistent: The project’s potential drainage impacts were evaluated in Section 3.8 Hydrology and Water Quality. Compliance with the adopted regulations of FID, FMFCD and applicable City of Fresno General Plan policies will ensure that the project does not cause flooding.
4I – Safety Element Hazardous Materials	I-6. Objective	Reduce and control the adverse effects of hazardous materials on the public’s health, safety, and welfare so as to promote the public health and welfare of local residents and the productive capacity of industry.	Consistent: Users onsite will be required to comply with all applicable federal and State laws related to hazardous materials. See Section 3.7 Hazards.
	I-6-c. Policy	Approval of annexations, and development projects (including issuance of building permits) will be subject to state and federal requirements for adequate assessment and mitigation measures on listed hazardous material sites and for business activities that involve more than threshold amounts of hazardous materials.	Consistent: The project is not located on a hazardous material site. Users onsite will be required to comply with all applicable federal and State laws related to hazardous materials.
	I-6-e. Policy	Through the environmental review process for land use plans and other	Consistent: The project will not be a user or generator of significant quantities of hazardous

Chapter – Element	No.	Goal/Objective/Policy Text	Consistency Determination
		development projects, the city will continue to identify and assess the health and safety-related implications of storage, use, and disposal of hazardous materials.	materials or wastes. Users onsite will be required to comply with all applicable federal and State laws related to hazardous materials. See Section 3.7 Hazards.
	I-6-f. Policy	All commercial and industrial special permits will be conditioned upon proper containment, use, safeguarding, and disposal of hazardous materials.	Consistent: The project will not be a user or generator of significant quantities of hazardous materials or wastes. Users onsite will be required to comply with all applicable federal and State laws related to hazardous materials. See Section 3.7 Hazards.
Housing Element	1.1 Policy	<p>Continue the Housing Support Activities of the City and RDA.</p> <p>Program 1.1.1 – Implementation of General Plan Policies</p> <p>The City Planning and Development Department and the RDA shall implement and support the 2025 General Plan affordable housing policies and policies for compact and mixed use development. The implementation and regional Cooperation Elements of the 2025 General Plan are supported by the Fresno County Blueprint, which includes the following goals related to housing:</p> <ul style="list-style-type: none"> ▪ Create a range of housing opportunities and choices; ▪ Create walkable neighborhoods; ▪ Mix land uses; and ▪ Take advantage of compact building design. 	Consistent. The proposed project would offer various housing options and would locate commercial uses adjacent to residential uses to create a mix of land uses. Mitigation measures have been incorporated to require development with the Westlake Development project site to construct pedestrian and bicycle infrastructure, thus promoting a more walkable neighborhood. (See MM #3.3.1j)
	2.1 Policy	<p>New Construction</p> <p>The City's RHNA number for new construction for this planning period consists of the following income categories:</p> <p>Extremely Low: 2,977 Very Low: 2,202 Low: 3,355 Moderate: 3,312 Above Moderate: 9,121</p>	Consistent. The proposed project would offer various housing options that would help the City achieve its share of RHNA numbers.

Source: City of Fresno 2002, amended 2009.

WEST AREA COMMUNITY PLAN CONSISTENCY ANALYSIS

Table 3.9-7 summarizes the proposed project’s consistency with all applicable objectives, goals, and policies of the West Area Community Plan. As shown in the table, the proposed project would be consistent with applicable objectives, goals, and policies.

**Table 3.9-7
West Area Community Plan Consistency Analysis**

Goal/Objective/Policy		Consistency Determination
No.	Text	
Goal	Develop the West Area as a planned community with a complete range of services and facilities for the needs of community residents, in adherence to a set of specific standards for residential, commercial, industrial, and public infrastructure development, with special emphasis on minimization of land use conflict between agriculture and urban uses.	<p>Consistent. The project will provide a master planned community within the West Area Community Plan boundaries. The project will be designed and developed in an integrated manner to ensure the adequate provision of public services and utilities.</p> <p>A Master Conditional Use Permit (CUP) will be prepared for the project to provide consistency with development standards and design guidelines and help define the theme of Westlake. The Master CUP will also provide standards for density transfer within the project site.</p> <p>The project will employ buffers to lessen potential land use conflicts between agricultural and urban uses.</p>
W-1. Objective	Promote compatibility between areas planned for, or committed to, active farming operations and areas planned for urban development.	<p>Consistent. The project will employ buffers to lessen potential land use conflicts between agricultural and urban uses.</p>
W-1-a. Policy	Boundaries of planned urban uses should be drawn in order to prevent "peninsular effects" (i.e., intrusions of farmland into urban areas, or vice-versa).	<p>Consistent. The project is located within the City’s Sphere of Influence. The City’s General Plan envisions the project site and the areas east of it to fall within the incorporated areas upon build-out of the General Plan.</p>
W-2. Objective	Provide comprehensive mechanisms for funding and timely construction of needed public facilities including, but not limited to, streets, sidewalks, drainage facilities (including curbs and gutters), sewer and water utilities, schools, fire stations, law enforcement substations, and parks.	<p>Consistent. The project will achieve compliance through a combination of construction of public facilities and payment of impact fees to ensure the adequate provision of public services and facilities. See Section 3.12 – Public Services and Section 3.14 – Traffic.</p>

Goal/Objective/Policy		Consistency Determination
No.	Text	
W-2-a. Policy	The design of public services shall be based on planned development intensity. Appropriate sizing criteria shall be determined for public facilities, based on population and land use designations with sufficient additional reserve capacity to provide a reasonable margin of safety for potential variations in population growth and intensity of use.	Consistent. The project will pay impact fees to ensure the adequate provision of public services and facilities. The project will implement planned improvements as determined by the Public Works Director based on proposed land uses.
W-3. Objective	Provide streetscapes which create a positive image of the West Area and contribute to the West Area Community's quality of life.	Consistent. The project will comply with design standards set by the City and will implement street landscaping improvements.
W-4. Objective	Provide acceptable design standards for single-family residential development, to establish and maintain safe, attractive, and stable residential neighborhoods; to preserve the long-term integrity of the community.	Consistent. The project will comply with design standards established by the City.
W-5. Objective	Provide for the appropriate distribution and design of multiple-family and clustered residential uses, to establish and maintain safe, attractive, and stable residential neighborhoods and to preserve long-term integrity of the West Area Community.	Consistent. The project will offer a variety of housing opportunities in an integrated fashion.
W-6. Objective	Establish compatible relationships between housing types and densities, and provide standards for interfaces between urban and rural residential land uses and between single-family and	Consistent. The project will develop a variety of housing types in an integrated fashion.

Goal/Objective/Policy		Consistency Determination
No.	Text	
	multiple-family residential projects.	
W-7. Objective	Ensure that new industrial, commercial, office, public facility, and other nonresidential development is compatible with surrounding areas and provides an attractive appearance.	Consistent. The project will be developed as an integrated project to ensure compatibility between uses.

Source: City of Fresno, 2002

Zoning

The proposed project site is currently zoned AE-20 (Exclusive Agricultural, 20-acre minimum lot size) by the County and will need to be pre-zoned prior to annexation by the City. Table 3.9-2 shows the proposed land use designations and zone districts and the density restrictions of those districts. Future site plans must demonstrate consistency with the zone districts for approval. The City of Fresno Zoning Ordinance contains specific development standards for Planned Developments and Residential/Commercial Mixed Use Developments. Future development within the project site will be subject to City review to ensure consistency with those standards.

Annexation

The proposed project site is partially adjacent to, and outside of, the Fresno City limits, but is within the City's Sphere of Influence. However, the drainage basin that was originally designated within the project boundaries will be relocated to an area that is outside the City's Sphere of Influence. The proposed project will need to be annexed into the City limits prior to development. Table 3.9-8 assesses the project's consistency with State law. As shown in the table, the project would be consistent with the law.

**Table 3.9-8
Consistency with State Law for Annexation**

Standard	Consistency Determination
<p>56841. Factors to be considered in the review of a proposal shall include, but not limited to, all of the following:</p>	
<p>a) Population, population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years.</p>	<p>Consistent: These factors are all evaluated in this subsection (3.9) of the EIR, and found to be less than significant. The project is proximate to other populated area; these are not natural boundaries which affect is design; the 2025 General Plan has planned population growth for the area including the project site; there are no topographic constraints on project development.</p>
<p>b) Need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.</p> <p>"Services," as used in this subdivision, refers to governmental services whether or not the services are services that would be provided by local agencies subject to this division, and includes the public facilities necessary to provide those services.</p>	<p>Consistent This EIR's environmental analysis demonstrates that efficient delivery of City services (e.g., wastewater disposal by the project site-adjacent Grantham Trunk Line, designed to serve the northwest Sphere of Influence library services, fire services, etc.) can be effected.</p>
<p>c) The effect of the proposed action and of alternative actions, on adjacent areas, on mutual social and economic interests, an on the local governmental structure of the county.</p>	<p>Consistent: These effects have been evaluated for both the project and for project alternatives - agricultural "border" effects, noise impacts, including those of adjacent industrial and residential facilities, for example.</p>
<p>d) The conformity of both the proposal and its anticipated effects with both the adopted commission policies and priorities set forth in Section 56377.</p>	<p>Consistent: The proposed project is evaluated in the EIR as in conformity. The EIR evaluates the LAFCO concern regarding the "peninsula" effect and has found it to be less than significant (see also Figure 3.9-6).</p>
<p>e) The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, and defined by Section 56016.</p>	<p>Consistent: The proposed project, as evaluated in the EIR, does not affect agricultural lands except for those displaced by the project itself.</p>
<p>f) The definiteness and certainty of the boundaries of the territory, the nonconformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.</p>	<p>Consistent: An Initial Study letter of comment from LAFCO (see Appendix A) expressed concern that the project was not in compliance with a portion of Factor f): "...the creation of islands or corridors of unincorporated territory is,". Figure 3.9-6 demonstrates that neither islands nor corridors are created by the project - that the</p>

Standard	Consistency Determination
	Agency's "peninsula" concern creates neither an island nor a corridor ¹ .
g) Consistency with city or county general and specific plans.	Consistent: The proposed project is evaluated in the EIR as consistent with the objectives of the City's 2025 General Plan. The County General Plan does not pertain to the project; there is no specific plan for the area.
h) The sphere of influence of any local agency which may be applicable to the proposal being reviewed.	Consistent: The proposed project is located within the sphere of influence of the City of Fresno.
i) The comments of any affected local agency.	Consistent: The comments of affected local agencies have been considered in the EIR's environmental evaluation.

Conclusion: The proposed project will not conflict with the City of Fresno's General Plan, West Area Community Plan or zoning ordinance, nor with State law governing annexations. This impact would be *less than significant*.

Mitigation Measures: None are required.

¹ Merriam-Webster defines a corridor as...a usually narrow passage way or route...a narrow strip of land between foreign-held territory

3.10 Noise

INTRODUCTION

This section addresses regulations pertaining to noise within and around the City of Fresno, the noise environment at the proposed project location, noise generated from proposed project activities, and potentially affected noise-sensitive receptors. Potential long and short-term project related noise is discussed in this section based on information contained in the Environmental Noise Assessment Westlake Development Project, Fresno California (October 26, 2012) prepared by Brown-Buntin Associates, Inc. (see Appendix H). It should be noted that this impact analysis is based upon project buildout; it is not useful or practical to evaluate noise impacts on construction phases.

3.10.1 REGULATORY AND PHYSICAL SETTING

Regulatory

Noise is regulated at the federal, state, and local levels through regulations, policies, plans, and/or local ordinances. Local policies are commonly adaptations of federal and state guidelines, based on prevailing local conditions or special requirements.

The federal Department of Housing and Urban Development (HUD) and the Federal Transit Administration (FTA) both provide standards related to noise.

FEDERAL

Department of Housing and Urban Development (HUD)

HUD environmental noise regulations, presented in the Code of Federal Regulations (24 CFR Part 51B) require that new HUD-financed housing construction meet the following noise standards. Exterior noise levels are considered:

- Acceptable at 65 A-weighted decibels (dB(A)) day-night average level (DNL also known as Ldn) or less;
- Normally unacceptable if they exceed 65 dB(A) Ldn but not 75 dB(A) Ldn, unless appropriate sound attenuation measures are provided which include 5 decibels additional attenuation over standard construction in the 65 to 70 dB(A) Ldn zone or 10 dB of additional attenuation in the 70 to 75 dB(A) Ldn zone; and
- Unacceptable if they exceed 75 dB(A) Ldn.

Interior noise levels and attenuation requirements are geared toward achieving an interior noise level of 45 dB(A) Ldn. The HUD guidelines assume that standard construction will provide sufficient attenuation to achieve interior levels of 45 dB(A) Ldn or less if the exterior noise level is 65 dB(A) Ldn or less. These regulations apply to new residential projects that receive federal

funding unless another agency with stricter standards is the regulatory or lead agency. If housing developed in the proposed Westlake Development project receives federal funding, the federal noise standards will be applicable unless the City or County is the regulatory or lead agency.

Federal Highway Administration

The Federal Highway Administration (FHWA) has a noise regulation that applies when a state department of transportation requests federal funding for participation in the project. Although funding sources for proposed roadway work along existing streets are not known at this time, it is not uncommon for federal funds to be used for local roadway projects. Therefore, Public Law 91-605, 84 Stat. 1713 (23 Code of Federal Regulations 772) Procedures of Abatement of Highway Traffic Noise and Construction Noise may apply during roadway construction. This regulation requires the highway agency to investigate traffic noise impacts in areas adjacent to federally-aided highways, for either a highway in a new location or the reconstruction of an existing highway. The regulation requires a three-part approach, including land use planning and control, source control (e.g., controlling major sources of noise), and highway project noise mitigation.

Mitigations require:

- Identification of traffic noise impacts and examination of potential mitigation measures;
- Incorporation of reasonable and feasible noise mitigation measures into the highway project; and
- Coordination with local officials to provide helpful information on compatible land use planning and control.

According to Title 23 CFR Part 772.5 of the FHWA standards, traffic noise impacts occur when the predicted traffic noise level in the design year approaches or exceeds the Noise Abatement Criteria (NAC) specified by 23 CFR 772 or substantially exceeds the existing noise level. A noise level is considered to approach the NAC for a given activity if it is within 1 dB (A-weighted decibels) of the NAC.

A substantial noise increase occurs when the project's worst-hour design-year noise level, as defined by the equivalent sound level (Leq), exceeds the existing worst-hour noise level by 12 dB or more.

Table 3.10-1 summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

**Table 3.10–1
Activity Categories and Noise Abatement Criteria (NAC)**

Activity Category	NAC, Hourly A-Weighted Noise Level (dBA – Leq [h])	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in categories A or B above
D	--	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: FHWA, Highway Traffic Noise: Analysis and Abatement Guidance, 2011

In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activities, or where the exterior activities are far from the roadway or physically shielded in a manner that prevents an impact on exterior activities, the interior criterion (Activity Category E) is used as the basis for determining a noise impact.

Noise Abatement Criteria

23 CFR 772 of the FHWA standards and the Caltrans Traffic Noise Analysis Protocol (Protocol) require that noise abatement be considered for projects that are predicted to result in traffic noise impacts. A traffic noise impact is considered to occur when future predicted design-year noise levels with the project “approach or exceed” Noise Abatement Criteria (NAC) defined in 23 CFR 772 (refer to Table 3.12-1) or when the predicted design-year noise levels with the project substantially exceed existing noise levels.

Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility as required by 23 CFR 772 and the Protocol. The overall reasonableness of noise abatement is determined by considering factors such as cost, absolute predicted noise levels, predicted future increase in noise levels, expected noise abatement benefits, build date of surrounding residential development along the highway, environmental impacts of abatement construction, opinions of affected residents, input from the public and local agencies, and social, legal, and technological factors.

23 CFR 772 states that for noise abatement to be considered acoustically feasible, it must be predicted to provide at least a 5 dB minimum reduction at an impacted receptor. Additionally, 23 CFR 772 now requires an acoustic design goal for abatement. The Caltrans acoustic design goal is that noise abatement must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors. In addition, barriers should be designed to intercept the line-of-sight from the exhaust stack of a truck to the first tier of receivers, as required by the Highway Design Manual, Chapter 1100. Other factors that affect feasibility include topography, access requirements for driveways and ramps, presence of local cross streets, utility conflicts, other noise sources in the area, and safety considerations.

The Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). The 2011 base allowance is \$55,000. Additional allowance dollars are added to the base allowance based on absolute noise levels, the increase in noise levels resulting from the project, achievable noise reduction, and the date of building construction in the area. Total allowances are calculated by multiplying the cost-per-residence by the number of benefited residences. If the total allowance for all evaluated noise barriers is more than 50 percent of the estimated construction cost, the allowance per residence is modified to a reduced value.

Construction Noise and Vibration

There are no Caltrans or FHWA standards for construction noise or vibration. One reference suggesting vibration standards is the Federal Transit Administration (FTA) publication concerning noise and vibration impact assessment from transit activities. Although the FTA guidelines are to be applied to transit activities and construction, they may be reasonably applied to the assessment of the potential for annoyance or structural damage resulting from other activities. To prevent vibration annoyance in residences, a vibration velocity level of 80 VdB or less is suggested when there are fewer than 70 vibration events per day. A level of 100 VdB or less is suggested by the FTA guidelines to prevent damage to fragile buildings.

STATE

California Building Code

New multifamily housing in California is subject to the environmental noise limits set forth in Title 24, Part 2, of the State Building Code. The interior noise level limit of Title 24 is 45 dBA CNEL or Ldn, which is consistent with the HUD standard. Where exterior noise levels exceed 60 dBA Ldn, a report must be submitted to the local building department with the building plans describing the noise control measures that have been incorporated into the design of the proposed project to achieve an interior noise level of 45 dBA CNEL or Ldn in interior living spaces. If the windows must remain closed in order to meet the required noise level, an alternate means of ventilation such as air-conditioning must be provided.

The State building code also has requirements for airborne and impact noise isolation between adjacent dwelling units. The airborne and impact sound isolation requirements are typically handled in the architectural design phase of a project.

Caltrans Vibration Guidance

Construction vibration is regulated in accordance with standards established by the Transportation and Construction-Induced Vibration Guidance Manual, issued by the California Department of Transportation (Caltrans). Table 3.10-2 presents these standards. Transient sources create a single, isolated vibration event, such as blasting or drop-ball impacts. Continuous/frequent intermittent sources include multiple impacts from pile drivers, the use of vibratory compaction equipment, and other construction equipment that creates vibration other than in single events. This Manual applies to Caltrans initiated projects.

**Table 3.10-2
Groundborne Vibration Exposure Standards**

Structure and Condition	Maximum Peak Particle Velocity (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic building, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and older residential structures with plaster walls and ceilings	0.50	0.25
New residential structures with gypsum board walls and ceilings	1.00	0.50
Modern commercial and industrial buildings	2.00	0.50

Source: California Department of Transportation, 2004.

LOCAL

County of Fresno Environmental Health Services

The County of Fresno abuts the proposed project area, and as such the Environmental Health Services (EHS) would review the Westlake Development Project Draft EIR to evaluate compliance with County ordinance, *Chapter 8.40 Noise Control*. Compliance under this ordinance excludes construction noise, activities in public parks and playgrounds (except school athletic and school entertainment events), and noises generated from certain commercial or industrial activity. In general exterior daytime noise standards range from 50-70 dBA depending on the cumulative number of minutes in any one-hour time period. The range for interior daytime noise standards is 45-55 dBA.

The County ordinance governs noise impact evaluation for properties not within the City limits but abutting the project area and for roadways outside the City limits subject to project-related offsite traffic noise.

City of Fresno General Plan Noise Element and Noise Ordinance

Although the project site is currently located within Fresno County, if the proposed project is to be developed it will need to be annexed to the City of Fresno. Therefore, the City of Fresno Noise Element of the General Plan and Municipal Code Sections 10-101 through 10-111 (Noise Ordinance) would apply to the project. The Noise Element standards apply to noise produced by traffic on public roadways and noise produced by proposed commercial uses and other stationary sources. The City’s Noise Ordinance provides guidelines for decibel measurement criteria, monitoring procedures, prohibited noises, violations, exceptions, permits and injunctions.

The City of Fresno 2025 General Plan Noise Element contains a number of policies that apply to noise impacts in conjunction with ultimate build-out of the City. The policies listed below are designed to ensure that noise impacts are minimized as development occurs.

Noise Element

H-1-a. Policy New noise-sensitive land uses impacted by existing or projected future transportation noise sources shall include mitigation measures so that resulting noise levels do not exceed the standards shown in Table 8 (3.10-3) below:

**Table 3.10-3¹
Maximum Allowable Noise Exposure
Transportation Noise Sources**

Land Use ⁴	Outdoor Activity Areas ¹ Ldn db	Interior Spaces	
		Ldn	Leq ² dB ²
Residential	60 ³	45	---
Transient Lodging	60 ³	45	---
Hospitals, Nursing Homes	60 ³	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	60 ³	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

¹Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

²As determined for a typical worst-case hour during periods of use.

³Noise levels up to 65 db Ldn adjacent to the Burlington Northern Santa Fe and Union Pacific mainline tracks may be allowed by the project approving authority when it is determined that it is not possible to achieve a 60 dB Ldn in outdoor activity areas using a practical application of the best-available noise reduction technology, and when all feasible exterior noise reduction measures have been proposed.

⁴The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.

¹ The noise exposure data is based upon a traffic study conducted earlier in EIR preparation. A review of that study and the most current traffic study (Appendix _____) discloses no ADT variations sufficiently different to warrant any significant revisions of DNL estimates.

- H-1-b. Policy For purposes of city analyses of noise impacts, and for determining appropriate noise mitigation, a significant increase in ambient noise levels is assumed if the project causes ambient noise levels to exceed the following:*
- *the ambient noise level is less than 60 dB Ldn and the project increases noise levels by 5 dB or more;*
 - *the ambient noise level is 60-65 dB Ldn and the project increases noise levels by 3 dB or more; and*
 - *the ambient noise level is greater than 65 dB Ldn and the project increases noise levels by 1.5 dB or more.*
- H-1-c. Policy The city shall review new public and private development proposals to determine conformance with the policies of this Noise Element.*
- H-1-d. Policy The city shall require an acoustical analysis in those cases where a project potentially threatens to expose existing or proposed noise-sensitive land uses to excessive noise levels. The presumption of potentially excessive noise levels shall be based on the location of new noise-sensitive uses to known noise sources or staffs professional judgment that a potential for adverse noise impacts exists. Acoustical analyses shall be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of building permits. The requirements for the content of an acoustical analysis are established by the Planning and Development Department in conjunction with environmental health agencies.*
- H-1-e. Policy The city shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.*
- H-1-f. Policy The city shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.*
- H-1-g. Policy The city shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.*
- H-1-j. Policy Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so that resulting noise levels do not exceed the adopted standards at noise-sensitive land uses.*

H-1-k. Policy New noise-sensitive land uses impacted by stationary noise sources shall include mitigation measures so that resulting noise levels do not exceed the standards show in Table 9 (Table 3.10-4) as follows:

**Table 3.10-4
Maximum Allowable Noise Exposure-Stationary Noise Sources¹**

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (Leq), dB	50	45
Maximum Sound Level (Lmax), dB	70	65

H-1-l. Policy Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table 9 at noise-sensitive land uses.

H-1-m. Policy As a guideline, noise barriers (walls, earth berms, or berm/wall combinations) shall not exceed 15 feet in height as measured from the elevation of the nearest building pad. The Planning and Development Director, on a case-by-case basis, may allow noise barrier heights differing from this guideline. However, resulting noise levels must satisfy the maximum allowable noise exposure standards.

City of Fresno Noise Standards

Table 3.10-5 presents the City of Fresno’s maximum allowable noise exposure from transportation sources for community noise adopted by the City of Fresno’s General Plan Noise Element. This table provides planners with a tool to gauge the compatibility of new land uses relative to existing and future noise levels.

**Table 3.10-5
Maximum Allowable Noise Exposure from Transportation Noise Sources**

Land Use¹	Outdoor Activity Areas (dB Ldn)²	Interior Spaces	
		dB Ldn	dB Leq³
Residential	60 ⁴	45	NA
Transient Lodging	60 ⁴	45	NA
Hospitals, Nursing Homes	60 ⁴	45	NA
Theaters, Auditoriums, Music Halls	NA	NA	35
Churches, Meeting Halls	60 ⁴	NA	45
Office Buildings	NA	NA	45
Schools, Libraries, Museums	NA	NA	45

Source: City of Fresno General Plan Noise Element, 2002

NA = Not Applicable

1. The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise sensitive, and may require appropriate noise mitigation measures.

2. Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise levels standard shall be applied to the property line of the receiving land use.

3. As determined for a typical worst-case hour during periods of use.

4 Noise levels up to 65 dBA Ldn adjacent to the Burlington Northern Santa Fe railroad and Union Pacific Railroad mainline tracks may be allowed by the project approving authority when it is determined that it is not possible to achieve 60 dB Ldn in outdoor activity areas using a practical application of the best-available noise reduction technology, and when all feasible exterior noise reduction measures have been proposed.

Based on these noise compatibility guidelines, the City of Fresno has developed significance criteria for project-related increases in ambient noise levels. The City’s incremental thresholds are shown in Table 3.10-6.

**Table 3.10-6
City of Fresno Incremental Noise Impact Criteria for Noise-Sensitive Uses**

Existing Noise Exposure (dB Ldn)	Project Increase in Ambient Noise Levels (dB Ldn)
< 60	5
60 to 65	3
> 65	1.5

Source: City of Fresno General Plan Noise Element, Policy H-1-b, 2002

Stationary Noise Standards

The City of Fresno noise regulations are provided in Article, 1, Noise Regulations, in Sections 10-101 through 10-111 of the Municipal Code. Pursuant to the City’s Municipal Code, noise generated at a property is restricted from exceeding certain levels for extended periods of time. The City applies the Noise Control Ordinance standards (summarized in Table 3.10-4) to non-transportation noise sources. These standards do not gauge the compatibility of developments in the noise environment, but provide restrictions on the amount and duration of noise generated at a property, as measured at the property line of the noise receptor.

The City’s Noise Ordinance is designed to protect people from objectionable non-transportation noise sources such as music, machinery, pumps, and air conditioners.

Additionally, Table 3.10-7 also shows the stationary noise standards provided in the City’s General Plan. As stated in the General Plan, new noise-sensitive land uses impacted by existing stationary sources are required to include mitigation measures so as the resulting noise levels do not exceed the standards shown in Table 3.10-7. Additionally, new proposed stationary noise sources must also be mitigated so as to not exceed these noise standards as measured at existing noise-sensitive land uses.

City of Fresno Municipal Code, Sound Amplifying Equipment

The City of Fresno prohibits the use of loudspeakers or sound-amplifying equipment without first obtaining approval from the City. For commercial and non-commercial use of sound amplifying equipment, operation is restricted to between the hours of 7 AM and 10 PM and prohibited within 300 feet of churches, schools, or hospitals. Furthermore, the City prohibits noise from such equipment from exceeding the ambient noise levels by 15 dBA as measured at the property.

**Table 3.10-7
Exterior Noise Standards**

District	Time Period	Municipal Code ^{1,2,3}		General Plan ^{4,5,6}	
		dBA L ₂₅	dBA Leq	dBA L _{max}	
Residential	10 PM to 7 AM	50	45	65	
	7 AM to 7 PM	60	50	70	
Commercial	7 PM to 10 PM	55	50	70	
	10 PM to 7 AM	60	NA	NA	
Industrial	7 AM to 10 PM	65	NA	NA	
	Anytime	70	NA	NA	

Source: City of Fresno Municipal Code, Chapter 10, Article 1, Noise Regulations, Sections 10-102 and 10-106; Fresno 2002.

1 For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made.

2 Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location.

3 Any noise or sound exceeding the ambient noise level at the property line of any person offended thereby, or, if a condominium or apartment house, within any adjoining living unit, by more than five decibels shall be deemed to be prima facie evidence of a violation of Section 8-305.

4 New noise-sensitive land uses impacted by stationary sources shall include mitigation measures so that resulting levels do not exceed the standards shown in Table 9 of the City of Fresno General Plan (H-1-K Policy).

5 Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table 9 in the City of Fresno General Plan at noise sensitive land uses (H-1-L Policy).

6 As determined at outdoor areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five (5) dB.

City of Fresno Municipal Code, Construction Hours

The City of Fresno exempts noise generated by construction, site preparation, grading, repair, or remodeling work permitted by the City from the stationary noise limits of the Municipal Code (Section 10-102) provided such work occurs between the hours of 7 AM and 10 PM on weekdays and Saturdays.

Physical Setting (Existing)

NOISE FUNDAMENTALS

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound

level. The unit of sound pressure, a ratio of the faintest sound detectable by a keen human ear, is called a decibel (dB).

Noise Descriptors

A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The zero point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or fewer are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness.

Because sound or noise can vary in intensity by over 1 million times within the range of human hearing, a logarithmic loudness scale similar to the Richter scale used for earthquake magnitude is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called A weighting, written as dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Any further reference to decibels in this report written as dB should be understood to be A-weighted values.

Many methods have been developed for evaluating community noise to account for, among other things:

- Variation in noise levels over time;
- Influence of periodic individual loud events; and
- Community response to changes in the community noise environment.

Several methods have been developed to measure sound over a period of time, including:

- Equivalent Sound Level (Leq);
- Community Noise Equivalent Level (CNEL); and
- Day/Night Average Sound Level (Ldn).

These methods are described and defined below:

Leq

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time-varying period (called Leq), or, alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. For example, the noise levels exceeded on 10 percent of readings is called L₁₀, the median (50th percentile) reading is called L₅₀, etc.

CNEL

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment penalty be added to quiet time noise levels in a 24-hour noise descriptor called CNEL.

Ldn

Another commonly used method is the day/night average level or Ldn. The Ldn is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period, called the Leq. The Ldn is calculated by averaging the Leqs for each hour of the day at a given location after penalizing the sleeping hours (defined as 10:00 p.m. to 7:00 a.m.) by 10 dBA to account for the increased sensitivity of people to noises that occur at night. The maximum noise level recorded during a noise event is typically expressed as Lmax. The sound level exceeded over a specified time can be expressed as Ln (e.g., L₉₀, L₅₀, L₁₀, etc.). L₅₀ equals the level exceeded 50 percent of the time, L₁₀ equals the level exceeded 10 percent of the time, etc.

As previously mentioned, people respond to changes in sound pressure, which are measured on a noise scale in a logarithmic manner. In general, a 3-dB change in sound pressure level is considered a just detectable difference in most situations. A 5-dB change is readily noticeable, and a 10-dB change is considered a doubling (or halving) of the subjective loudness. Note that a 3-dB increase or decrease in the average traffic noise level is realized by a doubling or halving of the traffic volume, or by about a 7-mile-per-hour increase or decrease in speed.

For each doubling of distance from a point noise source, the sound level will decrease by 6 dB. In other words, if a person is 100 feet from a machine and moves 200 feet from that source, sound levels will drop by approximately 6 dB. Moving 400 feet away, sound levels will drop approximately another 6 dB. For each doubling of distance from a line source, such as a roadway, noise levels are reduced 3 to 5 decibels, depending on the ground cover between the source and the receiver.

NOISE EXPOSURE

As shown in Table 3.10-8 a noise level of 65 dB is the level at which ambient noise begins to interfere with one's ability to carry on a normal conversation at reasonable separation without raising one's voice. The noise attenuation that occurs within residential structures with closed windows is about 20 dB. Due to this 20 dB noise attenuation between outdoor levels and indoor levels, a 45dB interior noise standard can be achieved with an exterior noise exposure of 65 dB CNEL without any specialized structural attenuation (e.g., dual-paned windows). Local and state regulations recognize this 20dB attenuation. For example, the City of Fresno has set a 45dB standard for interior noise and a 65 dB standard for exterior noise. (See also California Code of Regulations Title 24 Part 2, Vol. 1 Section 1207, which require noise insulation adequate to achieve an interior noise level of CNEL 45 dB in hotels, motels, dormitories, apartment homes, and dwellings (other than detached single-family dwellings).

**Table 3.10-8
Noise Levels and Human Response**

Noise Source	Noise Level (dBA)	Response
Library	30	Very quiet
Refrigerator Humming	40	Quiet
Quiet office	50	Quiet
Normal conversation	60	Intrusive
Vacuum cleaner	70	Telephone use difficult
Freight train at 50 feet	80	Interferes with conversation
Heavy-duty truck at 50 feet	90	Annoying
Jet takeoff at 2,000 feet	100	Very annoying, hearing damage at sustained exposure levels
Unmuffled motorcycle	110	Maximum vocal effect; physical discomfort
Jet takeoff at 200 feet	120	Regular exposure over one minute risks permanent hearing loss
Shotgun firing	130	Pain threshold
Carrier jet operation	140	Harmfully loud

Source: Melville C. Branch and R. Dale Beland, 1970

Construction Noise Assumptions

The FHWA compiled noise measurement data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston.

Table 3.10-9 provides a list of the construction equipment measured along with the associated measured noise emissions and measured percentage of typical equipment use per day. From this acquired data, the FHWA developed the Roadway Construction Noise Model, which may be used for the prediction of construction noise. For the purposes of this analysis, the Roadway Construction Noise Model will be used to calculate the construction equipment noise emissions.

GROUNDBORNE VIBRATION

Groundborne vibration is primarily created from the operation of trucks and construction equipment and consists of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of groundborne vibration typically cause a nuisance only to people, but at extreme vibration levels, damage to buildings may occur. Although groundborne vibration can be felt outdoors, it is typically an annoyance only indoors, where the associated effects of the shaking of a building can be notable. Groundborne noise is an effect of groundborne vibration and typically only exists indoors. It is produced from noise radiated from the motion of the walls and floors of a room and may consist of the rattling of windows or dishes on shelves.

**Table 3.10-9
Construction Equipment Noise Emissions and Usage Factors**

Equipment	Acoustical Use Factor¹ (Percent)	Spec 721.560 Lmax @ 50 feet² (dBA, slow³)	Actual Measured Lmax @ 50 feet⁴ (dBA, slow)
Auger Drill Rig	20	85	84
Backhoe	40	80	78
Bar Bender	20	80	N/A
Compactor (ground)	20	80	83
Compressor (air)	40	80	78
Concrete Batch	15	83	N/A
Concrete Mixer Truck	40	85	79
Concrete Pump	20	82	81
Concrete Saw	20	90	90
Crane	16	85	81
Dozer	40	85	82
Dump Truck	40	84	76
Excavator	40	85	81
Flat Bed Truck	40	84	74
Front End Loader	40	80	79
Generator	50	82	81
Grader	40	85	N/A
Jackhammer	20	85	89
Paver	50	85	77
Pneumatic Tools	50	85	85
Pumps	50	77	81
Roller	20	85	80
Tractor	40	84	N/A
Vibrating Hopper	50	85	87
Vibratory Concrete Mixer	20	80	80
Welder/Torch	40	73	74

1 Acoustical use factor is the percentage of time each piece of equipment is operational during a typical workday.

2 Spec 721.560 is the equipment noise level utilized by the RCNM program.

3 The “slow” response averages sound levels over 1-second increments. A “fast” response averages sound levels over 0.125-second increments.

4 Actual Measured is the average noise level measured of each piece of equipment during the Central Artery/Tunnel project in Boston, Massachusetts primarily during the 1990s.

Source: Federal Highway Administration, 2006.

Vibration Perception

Peak particle velocity (PPV) relates to the maximum instantaneous peak of the vibration signal and is often used in measuring the magnitude of vibration. Scientific studies have shown that human responses to vibration vary by the source of vibration: continuous or transient. Continuous sources of vibration include construction, while transient sources include truck movements. Generally, the thresholds of perception and annoyance are higher for transient sources than continuous sources. Table 3.10-10 shows PPV levels for continuous and transient sources and the associated human response.

**Table 3.10-10
Response to Groundborne Vibration**

Peak Particle Velocity (inches/second)		Human Response
Continuous	Transient	
0.40	2.00	Severe
0.10	0.90	Strongly perceptible
0.04	0.25	Distinctly perceptible
0.01	0.04	Barely perceptible

Source: California Department of Transportation, 2004.

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans, whose threshold of perception is around 65 VdB. Offsite sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration.

Vibration Propagation

The propagation of groundborne vibration is not as simple to model as airborne noise. This is because noise in the air travels through a relatively uniform medium, while groundborne vibrations travel through the earth, which may contain significant geological differences. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground’s surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a push-pull fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or side-to-side and perpendicular to the direction of propagation. All three types of vibration propagation result in earth movement that can be measured through the use of a vibration meter; however, a vibration meter only captures the amount of movement and cannot decipher between the different types of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. However, in order for this drop-off rate to provide accurate results, the nearest receiver needs to be placed a minimum distance away from the source that is greater than double the width of the vibration source. As stated above, this drop-off rate can vary greatly, depending on the soil, but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

Construction-Related Vibration Level Prediction

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that

spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. Table 3.10-11 gives approximate vibration levels for particular construction activities. The data in the table provides a reasonable estimate for a wide range of soil conditions.

**Table 3.10-11
Vibration Source Levels for Construction Equipment**

Equipment	Peak Particle Velocity (inches/second)	Approximate Vibration Level (L _v) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.655 (typical)	104
Pile driver (sonic)	0.734 (upper range)	105
	0.170 (typical)	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 (in soil)	66
	0.017 (in rock)	75
Vibratory roller	0.210	94
Hoe ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Federal Transit Administration, 2006.

EXISTING NOISE LEVELS

The proposed project site, 460 acres of unimproved land, is bounded by Gettysburg Avenue to the north, Shields Avenue to the south, Garfield Avenue to the west and Grantland Avenue to the east. The site is currently fallow farmland, but has been in agricultural production for decades with a mixture of orchard and row crops and was dry farmed until 2007.

Much of the land surrounding the project site is in agricultural production or occupied by rural residential homes and ancillary structures. The CUSD Deran Koligian Education Center is located proximate to the proposed project site east of Grantland Avenue and south of Ashlan Avenue. Large lot single family homes are located adjacent to, and north of, the project site along West Rialto Avenue.

Other existing noise sensitive receptors in and around the project site include:

- Five rural residential homes north of the project site's northern boundary. The nearest home is located 50 feet from the northern project boundary;
- Five rural residential homes on the south side of Shields between Grantland and Garfield Avenues south of the project's southern boundary. The least setback is 100 feet from Shields Avenue;
- 14 rural residential homes on the east side of Grantland from Shields Avenue to Ashlan Avenue. The majority of the homes are set back more than 75 feet from Grantland's center line; however, two of the homes just south of Ashlan Avenue are set back approximately 60 feet from the roadway center line; and
- 18 rural residential homes located west of the project site's western boundary. These homes are set back at least 100 feet from Chateau Fresno Avenue and are located a minimum of 1,600 feet from the project site's western boundary.

Existing sources of noise affecting the project site include nearby and distant roadway traffic, intermittent farming operations, commercial activities at ALW Enterprises and Lamanuzzi & Pantaleo, and institutional (school) activities at Deran Koligian Stadium.

AMBIENT NOISE LEVEL MEASUREMENTS

Ambient noise level measurements were conducted at two locations within the project site on June 22, 2009 and on October 4, 2012. The measurement sites are noted on Figure 3.10-1. Site 1 was located near the northwest corner of the project site and Site 2 was located approximately 200 feet from the center of Grantland Avenue near the southeast corner of the site. These two locations are considered appropriate measurement locations due to their proximity to existing residences and major roadways (Grantland Avenue).

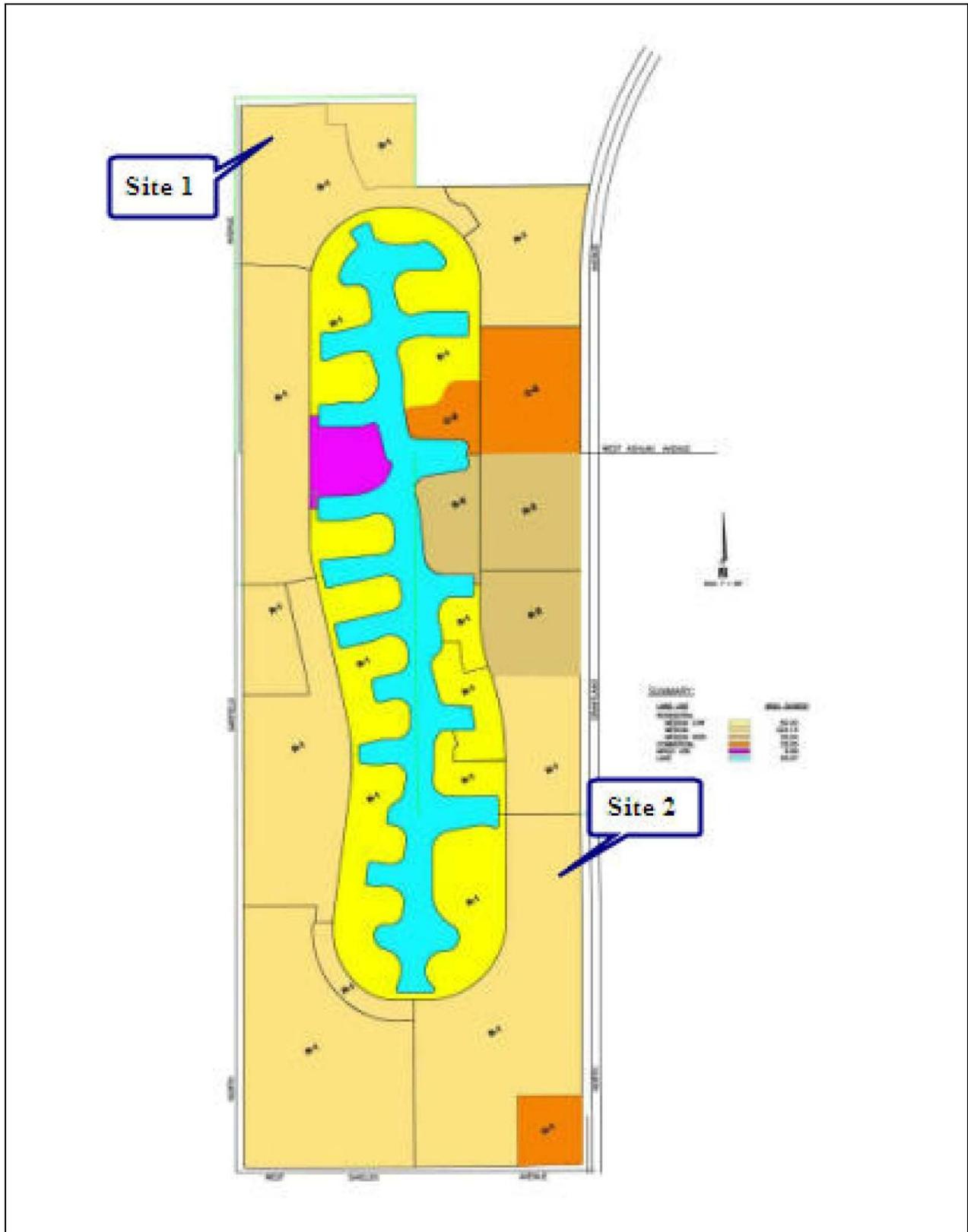


Table 3.10-12 summarizes the findings of the ambient noise level measurements. Noise levels are reported in terms of the energy average (Leq), maximum (Lmax) and L90 noise level descriptors for each 15-minute sample period. The Leq and Lmax describe average and maximum noise levels measured, and the L90 describes the noise level that was exceeded 90 percent of the time during the sample period. The L90 is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources.

**Table 3.10-12
Summary of Ambient Noise Level Measurements
Westlake Development Project**

Site	Time	A-weighted Decibels, dBA			Sources
		Leq	Lmax	L90	
<i>June 22, 2009</i>					
1	12:45-1:00 p.m.	40.3	48.3	36.2	Distant traffic and aircraft, birds
2	1:15-1:30 p.m.	45.6	68.0	37.9	Local and distant traffic, distant aircraft, fans
<i>October 4, 2012</i>					
1	12:45-1:00 p.m.	44.7	59.3	35.4	Military jet over-flight, traffic, birds
2	1:15-1:30 p.m.	47.8	65.0	36.5	Traffic on Grantland, commercial fans

Source: Brown-Buntin Associates, Inc.

Table 3.10-12 indicates that existing ambient noise levels at the noise measurement sites were in the range of 35-68 dBA, with energy average (Leq) values of about 40-48 dBA, during the noise measurement period. DNL values within the project site are estimated to be in the range of 50-60 dB, depending upon proximity to existing traffic, commercial or institutional noise sources.

Existing Traffic Noise Exposure

Existing traffic noise levels within and near the project site were modeled using the FHWA Highway Traffic Noise Prediction Model and traffic data obtained from a Traffic Impact Study prepared for the project by Peters Engineering Group. (Appendix I)

The FHWA Model is an analytical method used by most state and local agencies, including Caltrans, for highway traffic noise prediction. The FHWA Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy duty trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict DNL values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The FHWA Model assumes a clear view of traffic with no shielding at the receiver location.

Annual Average Daily Traffic (AADT) was estimated based upon peak hourly traffic volumes obtained from the Traffic Impact Study prepared by Peters Engineering. It was assumed that the

peak hourly traffic volume is approximately equal to 10 percent of the AADT. The day/night distribution of traffic and the percentage of trucks on roadways were estimated based upon studies performed by Brown-Buntin Associates (BBA) along similar roadways. Appendix B-1 of the Noise Report (Appendix H) summarizes the noise modeling assumptions used to calculate traffic noise exposure for existing conditions at and in the vicinity of the project site.

Table 3.10-13 summarizes calculated traffic noise exposure for existing traffic conditions. Shown are calculated DNL values at a typical residential setback along the roadways. A setback of 75 feet from the center of the roadway was assumed for all existing roadways. Existing noise barriers or other noise mitigation features were not accounted for in the calculations. Calculated noise levels are therefore representative of worst-case existing traffic noise exposure within and near the project site.

Table 3.10-13
Summary of Existing Traffic Noise Exposure (2011)¹
Westlake Development Project

Roadway	Roadway Segment Existing (Future)	Average Daily Trips	DNL (dB) @ Typical Residential Setback ²	
	(Shaw-Veterans)	-0-	-0-	
	Shaw-Ashlan (Veterans-Ashlan)	2,890	60.5	
	Ashlan-Dakota	2,350	59.6	
	Dakota-Shields	2,350	59.6	
Grantland Ave	Shields-Clinton	1,650	58.0	
	Clinton-McKinley	1,450	57.5	
	McKinley-Olive	980	55.8	
	Olive-Belmont	760	54.7	
	Belmont-Whitesbridge	580	53.5	
		Shaw-Gettysburg	2,040	56.8
		Gettysburg-Ashlan	2,940	58.4
Bryan Ave	Ashlan-Dakota	1,530	55.5	
	Dakota-Shields	640	51.7	
	Shields-Clinton	550	51.1	
		Shaw-Gettysburg	1,230	54.6
Hayes Ave	Gettysburg-Ashlan	1,960	56.6	
	Ashlan-Dakota	2,480	57.6	
	Dakota-Shields	1,040	53.8	
	Shields-Clinton	1,000	53.7	
Polk Ave	Ashlan-Dakota	6,290	61.7	
	Dakota-Shields	4,970	60.6	
	Shields-Clinton	3,660	59.3	
Blythe Ave	Ashlan-Dakota	5,700	61.2	
	Dakota-Shields	4,180	59.9	
	Shields-Clinton	5,590	61.1	
Brawley Ave	Shields-Clinton	8,410	62.9	

Roadway	Roadway Segment Existing (Future)	Average Daily Trips	DNL (dB) @ Typical Residential Setback ²
Shaw Ave	(Grantland-Veterans)	-0-	-0-
	Grantland-Bryan (Veterans-Bryan)	7,840	62.6
	Bryan-Hayes	8,400	62.9
Ashlan Ave	Grantland-Bryan	4,520	60.2
	Bryan-Hayes	5,280	60.9
	Hayes-Polk	4,460	60.2
Ashlan Ave	Polk-Cornelia	6,790	62.0
	Cornelia-Blythe	15,940	65.7
	Blythe-Parkway	20,630	66.8
Dakota Ave	(Grantland-Bryan)	-0-	-0-
	Grantland-Bryan	3,430	59.0
Shields Ave	Bryan-Hayes	3,390	59.0
	Hayes-Polk	3,370	59.4
	Polk-Cornelia	3,710	59.4
	Cornelia-Blythe	5,350	61.0
	Blythe-Brawley	4,870	60.6
	Brawley-Valentine	6,930	62.1
	Valentine-Parkway	6,950	62.1
	Grantland-Bryan	560	51.2
Clinton Ave	Bryan-Hayes	790	52.7
	Hayes-Polk	1,160	54.3
	Polk-Cornelia	2,690	58.0
	Cornelia-Blythe	7,240	62.3
	Blythe-Brawley	9,760	63.6
	Brawley-Valentine	10,730	64.0
	Valentine-Marks	14,500	65.3
	Marks-Vassar	22,440	67.2
Veterans Blvd	(Gettysburg S – Gettysburg N)	-0-	-0-
	(Gettysburg N – Shaw)	-0-	-0-
	(Shaw – Barstow)	-0-	-0-
	(Barstow – Bryan)	-0-	-0-
	(Bryan – SR99)	-0-	-0-

Source: Brown-Buntin Associates, Inc.

1. The noise exposure data is based upon a traffic study conducted earlier in the EIR preparation. A review of that study and the most current traffic study (Appendix I) discloses no ADT variations sufficiently different to warrant any significant revisions of DNL estimates.

2. A typical residential setback was assumed to be 75 feet from the center of the roadway for all roadways except for Veterans Boulevard where 100 feet was assumed.

Existing Stationary Source Noise Levels

Stationary noise sources are defined by the noise element as non-transportation noise sources. Stationary noise sources affecting the project site include ALW Enterprises, Lamanuzzi & Pantaleo, the Deran Koligian Education Center and farming activities within and adjacent to the site.

ALW Enterprises is a landscape construction company. Based upon field observations by BBA, the company's property adjacent to the project site is used for the storage of landscaping materials and plants and for equipment maintenance and storage. It may be assumed that the driveway located along the northern boundary of the Westlake Development project site is occasionally used by heavy trucks to transport equipment, and that mobile loading equipment is used on-site to load trucks with landscaping materials. It may also be assumed that trucks occasionally deliver materials and plants to the property.

According to ALW Enterprises, the property on which they are located was purchased by the project developer. Consequently, they are leasing the property and expect to relocate prior to project construction.

Lamanuzzi & Pantaleo is a fruit packing and shipping operation. A number of trucks were observed to be parked in front of the plant the time of BBA's field studies. Trucks were also observed to be entering the plant from and exiting the plant to Grantland Avenue. It is expected that the volume of truck operations fluctuates on a seasonal basis with the largest number of truck movements occurring during the summer and fall harvest months. Processing and cold storage equipment may run at any time of the night or day. Such equipment includes refrigeration equipment, exhaust fans and mobile equipment used to move products around the plant. During BBA's field studies, fans associated with the plant were observed to generate relatively constant noise levels in the range of 50-53 dBA when measured on the west side of Grantland Avenue directly across from the plant. Forklift movements within the plant were observed to generate noise levels in the range of 55-60 dBA when measured at the same location.

Based upon the level of activity observed on October 4, 2012, the Lamanuzzi & Pantaleo plant would be expected to generate hourly noise levels in the range of 50-55 dBA Leq at the eastern edge of the project site. Such levels exceed the hourly Leq standards of the city's noise element. Maximum noise levels (Lmax) from typical activities within the plant would be expected to be in the range of 55-60 dBA at the eastern boundary of the project site. Such levels would not exceed the Lmax standards of the noise element, but could be occasionally audible to future noise-sensitive uses within the project site.

The Deran Koligian Education Center is located on the east side of Grantland Avenue north of Ashlan Avenue. There is a sports stadium located at a setback of about 250 feet from Grantland Avenue. The stadium is used primarily by the Central Unified School District for high school football games in the late summer and fall (August-November). Most of those games occur on Thursday and Friday evenings with all activities (including parking lot activities) ending by 10:00 p.m. However, the stadium is also used for daytime soccer matches and middle school football games at various times of the year and for evening band practice during the football season. Noise sources associated with stadium use include parking lot movements, public address announcements, cheering by the crowd and band music. According to the school district, fireworks are not used in the stadium. Noise from stadium activities would be clearly audible within nearby sections of the project site during football games and other major events, and could occasionally exceed the hourly Leq and Lmax standards of the city's noise element.

There is also a Central Unified School District transportation yard located to the east of the stadium. The transportation facility is located at a sufficient distance from the project site that noise levels exceeding applicable standards would not be expected. Bus movements associated with the facility have been accounted for in the traffic noise sections of this report.

Noise sources associated with farming operations include the operation of water pumps, tractors, trucks and other heavy equipment and the occasional aerial application of agricultural chemicals. With the exception of water pumps, the noise levels associated with such activities occur on an intermittent basis and generally during the daytime hours.

When the project is developed, all future farming activities within the site will be eliminated. However, noise levels associated with intermittent farming operations adjacent to the project site could occasionally be audible along the western boundary of the project site. Such levels would not be expected to exceed the daytime hourly standards of the noise element with the possible exception of a water pumping facility observed to be located about 1,000 feet south of the northwest corner of the project site. The pumping facility was not operating at the time of BBA's field studies for the project. Water pumps may operate continuously for extended periods of time on a 24-hour basis.

IMPACT EVALUATION CRITERIA

According to Appendix G, Environmental Checklist of the CEQA Guidelines, noise impacts resulting from the implementation of the proposed project would be considered significant if the project would cause:

- 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 ground borne vibration or ground borne 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 noise 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.*

The City of Fresno General Plan has established performance standards to control stationary source/non-transportation related noise impacts. General Plan Policy H-1-k states that the maximum allowable noise exposure for a stationary noise source, as determined at outdoor

activity areas, be maintained at 50 dBA Leq and 70 dBA Lmax or less during the daytime (7 a.m. to 10 p.m.) and 45 dBA Leq and 65 dBA Lmax or less during the nighttime (10 p.m. to 7 a.m.). When ambient noise levels exceed or equal the above levels, mitigation shall only be required to limit noise to the ambient plus five dB.

Pursuant to Article 1, Section 10-105 and Section 10-109 of the City of Fresno's Municipal Code, construction noise is considered a nuisance and the Municipal Code restricts construction activities from occurring between 10:00 p.m. and 7:00 a.m. and anytime on Sunday. However, since neither the General Plan nor the Municipal Code provides allowable construction noise levels when construction activities are allowed to occur, construction noise impacts that occur during the allowable time for construction activities have been analyzed for the nearby residential uses based on the daytime stationary source noise thresholds defined in Policy H-1-k.

The General Plan Noise Element also defines what constitutes a significant noise increase. According to Policy H-1-b, the project will create a significant noise-related impact if it would:

- Increase noise levels by 5 dB Ldn or more where the without project noise level is less than 60 dB;
- Increase noise levels by 3 dB Ldn or more where the without project noise level is 60 to 65 dB; and
- Increase noise levels by 1.5 dB Ldn or more where the without project noise level is greater than 65 dB.

The vibration impact thresholds were based on Caltrans thresholds presented in its Transportation and Construction-Induced Vibration Guidance Manual. The report recommends a threshold of 0.25-inch-per-second PPV as the significance level for continuous events, near older residential structures during construction activities. The report also recommends a threshold of 0.25-inch-per-second PPV as the significance level for the human perception level to transient sources, which has been used to assess operations-related activities since the primary vibration source would be from the operation of delivery trucks for the commercial land uses.

The Initial Study concluded that the proposed project would not be impacted by excessive noise levels from public or private airports. Therefore, this issue is not discussed further in this Draft EIR (see Appendix A Initial Study for more information).

3.10.2 IMPACT ANALYSIS

Impact #3.10.1 – 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.

These impacts address construction noise, onsite transportation noise, onsite stationary noise, offsite transportation noise, and off-site stationary noise. Each topic will be addressed separately in the following analyses.

Construction Noise

Construction noise will occur at various locations within and outside of the proposed project site throughout the build-out period. During construction of the project, noise from construction activities would potentially impact noise-sensitive land uses in the immediate area. In order for noise impacts created by construction of the proposed project to be normally considered potentially significant under CEQA, construction activities need to occur between 10:00 p.m. and 7:00 a.m. on Monday through Saturday, and anytime on Sunday. Ordinance Code, City of Fresno, (Article 1, Noise Regulations, Sec. 10-109(a)). For construction activities that occur during these prohibited time periods a significant impact would occur at the nearby residential uses if construction noise levels exceed 50 dBA Leq, or ambient noise plus 5 dB for situations where the ambient noise exceeds the 50 dBA Leq standard. Construction noise would not create significant weekday impacts at the CUSD Deran Koligian Education Center because it is more distant (250 feet plus) than other sensitive receptors.

Activities involved in construction would generate noise levels at 50 feet as indicated by Table 3.10-9. Typical construction equipment such as dozers, excavators, backhoes, and dump trucks that produce the highest noise levels (between 80 and 85 dBA) will be in use during road and utility construction. Site 1 and 2 are located on the project site. In order to provide a conservative estimate for nearby sensitive receptors, impacts to these locations were assumed to be equivalent to impacts to receptors located offsite a minimum of 50 feet from the project site boundaries.

Table 3.10-14 provides a summary of the construction noise impacts to nearby sensitive receptors (residential land uses).

**Table 3.10-14
Construction Noise Impacts at Nearby Receptors**

Receptor Location	Existing Weekday dBA Leq Day	Existing Plus Construction dBA Leq Day	Increase Over Existing (dBA Leq)
Site 1	44.7	85	40.3
Site 2	47.8	85	37.2
Residences North of the Project Site Boundary	44.7 ¹	85	40.3
Residences South of the Project Site Boundary	47.8 ²	76	28.2
Residences East of the Project Site Boundary	59.6 ³	79	19.4
Residences West of the Project Site Boundary	44.7 ¹	44.7	0

Note: Assumes the equipment was placed at the nearest locations to the nearby sensitive receptors, along the edge of the proposed improvements.

1. Assumes the existing ambient noise level will be equivalent to Site 1.
2. Assumes the existing ambient noise level will be equivalent to Site 2.
3. Based on the existing noise level in Table 3.10-13

As shown in Table 3.10-14, construction activities have the potential to exceed the 50 dBA Leq, or ambient noise plus 5 dB for situations where the ambient noise exceeds the 50 dBA Leq standard. It is anticipated that no single home or group of homes will be continuously subjected to construction noise throughout the build-out of the project.

Onsite Roadway Traffic Noise

Table 3.10-15 summarizes the calculated distances to the 60 and 65 dB DNL contours for cumulative (2030) traffic conditions along roadways adjacent to the project site. Noise-sensitive land uses as defined in Table 3.10-5 (residences, schools, etc.) planned for development within the 60 dB DNL contour of those roadways would exceed the City of Fresno’s noise standards; this would be a potentially significant impact. (Cumulative conditions are used instead of existing conditions to more accurately evaluate noise impacts; the calculations are based on the corresponding cumulative traffic analyses.) Noise mitigation will be required for compliance with the city’s 60 dB DNL exterior noise level standard for transportation noise sources.

Indoor traffic noise exposure would be expected to comply with the city’s 45 dB DNL noise standard for transportation noise sources provided outdoor noise exposure has been effectively mitigated, normal construction methods and materials are employed and air conditioning or mechanical ventilation is provided so that doors and windows may remain closed if desired for noise attenuation purposes.

Mitigation of outdoor noise exposure could be achieved either by increasing building setbacks, by construction of sound walls or by a combination of setbacks and sound walls. Generally, a 6 foot-high sound wall will reduce traffic noise exposure at the first floor elevation by approximately 5 dB and an 8 foot-high wall will reduce traffic noise by approximately 7-8 dB. Outdoor activity areas located above the first floor elevation, such as decks or balconies, will not be effectively shielded by a sound wall of practical height. Because there are no specific development projects or site plans available for the project site, future development within the project site will be required to submit an acoustical analysis to demonstrate compliance with City standards either through the use of setbacks or of noise attenuation features.

**Table 3.10-15
Distance to DNL Contours-Cumulative (2030) Conditions
Westlake Development Project**

Roadway	Roadway Segment	Distance (feet) to DNL 60 dB Contour ¹	Distance (feet) to DNL 65 dB Contour ¹
Veterans Boulevard	Gettysburg N – Gettysburg S	365	170
Grantland Avenue	Veterans Boulevard-Ashlan Avenue	324	150
	Ashlan Avenue-Dakota Avenue	270	125
	Dakota Avenue-Shields Avenue	266	123

1. Relative to the center of the roadway.

Source: Brown-Buntin Associates, Inc., 2012

Onsite Stationary Noise

The greatest potential for on-site noise exposure that could exceed the city's standards would be loading operations and mechanical equipment associated with future commercial activities within the project site.

The City's noise element (Policy H-1-1) pertains to outdoor activity areas exposed to noise from stationary noise sources. Compliance would require that daytime (7:00 a.m.-10:00 p.m.) noise levels from on-site stationary noise sources not exceed an hourly Leq of 50 dBA or an hourly Lmax of 70 dBA within outdoor activity areas of noise-sensitive uses (residential, school, etc. see Table 3.10-5). For sources that may operate during the nighttime hours (10:00 p.m.-7:00 a.m.), the applicable standards are Leq and Lmax values of 45 and 65 dBA, respectively.

Because there are no specific development projects or site plans available for the project site, future development within the project site may result in impacts to noise-sensitive uses; these would be potentially significant impacts and will require mitigation. Future development with stationary noise sources within the project site will be required to submit an acoustical analysis to demonstrate compliance with City standards either through the use of setbacks or noise attenuation features.

Noise levels from onsite commercial sources may be effectively mitigated by incorporating noise mitigation measures into the design of noise-producing equipment or the path of transmission between noise sources and residential receptors. Options for noise mitigation include the use of sound walls, equipment enclosures or site design to take advantage of distance and/or acoustic shielding by non-sensitive buildings. It is recommended that two story residential buildings not be located adjacent to commercial uses unless such buildings can be effectively shielded from noise-producing activities or equipment.

Offsite Transportation Noise

The project would result in an increase in traffic on roadways serving the project area. The potential for significant increases in traffic noise exposure at off-site noise-sensitive uses was analyzed using the Traffic Impact Study prepared by Peters Engineering (Appendix I) and the FHWA Model. Traffic noise modeling assumptions are summarized in the Noise Assessment (Appendix H). Since the noise-sensitive uses of concern are residential uses, traffic noise exposure was calculated using the DNL metric.

Traffic noise levels were calculated at typical residential setbacks for roadways in the project area for existing (2012) and future (2030) conditions. Calculated DNL values with and without the project were compared to determine if the project would cause traffic noise levels to exceed the city's 60 dB DNL exterior standard (Policy H-1-a) or result in a significant noise level increase (Policy H-1-b). Existing noise barriers or other noise mitigation features were not accounted for in the calculations since the analysis is intended to demonstrate the relative change in traffic noise exposure that could occur as a result of the project.

Table 3.10-16 summarizes the findings of the off-site traffic noise analysis. Shown by the table are existing, existing plus project, 2030 and 2030 plus project traffic noise levels at typical residential setbacks along roadway segments analyzed by the Peters Engineering Group traffic impact study. Typical residential setbacks were determined by reference to aerial photographs of the area and field observations by BBA staff. A typical residential setback of 75 feet from the center of the roadway was assumed for all roadways except for Veterans Boulevard where a distance of 100 feet from the center of the roadway was assumed. Many existing homes in the project area are located at greater distances from the roadway and some are acoustically shielded from roadway traffic noise by intervening buildings or sound walls.

Table 3.10-16 shows that traffic noise exposure at a typical residential setback would exceed the city's 60 dB DNL standard, as a result of the project, along Grantland Avenue between Ashlan and McKinley Avenues and along Shields Avenue between Grantland and Cornelia Avenues for existing plus project conditions. This is considered a potentially significant project-related noise impact. Potentially significant project-related increases in traffic noise exposure would occur along Grantland Avenue between Shaw and Shields Avenues for both existing plus project and 2030 plus project conditions. Potentially significant project-related increases would also occur along Ashlan Avenue between Cornelia and Blythe Avenues and along Veterans Boulevard between Gettysburg and Barstow Avenues for 2030 plus project conditions.

Most of the homes located along the existing roadways with potentially significant noise impacts are set back 70 to more than 150 feet from the center of the roadways and face the roadway. That means that the home structure is located between the roadway and backyard outdoor activity areas. It is estimated that acoustic shielding by individual home structures could reduce traffic noise exposure by a minimum of 10 dB within shielded backyards. This is sufficient for existing and future traffic conditions compliance with the city's 60 dB DNL standard for all homes facing the identified existing roadways for existing and future traffic conditions. For the relatively few existing homes that back up to the roadway along the above-identified roadways, backyard outdoor activity areas are shielded from traffic noise exposure by existing sound walls. It has been assumed that such sound walls were designed to reduce traffic noise exposure to acceptable levels; however, given the uncertainty in the effectiveness of these existing sound walls, the impact remains significant. The only future roadway where project-related traffic could result in a potentially significant noise impact is Veterans Boulevard.

**Table 3.10-16
Summary of Traffic Noise Impacts
Westlake Development Project**

Roadway	Roadway Segment Existing (Future)	DNL (dB) @ Typical Residential Setback ¹							
		Existing	Existing + Project	Change ²	Significant?	2030 No Project	2030 + Project	Change ³	Significant?
Grantland Ave	(Shaw-Veterans)	-0-	-0-	--	--	62.8	63.5	+0.7	No
	Shaw-Ashlan	60.5	68.6	+8.1	Yes	65.5	69.5	+4.0	Yes
	(Veterans-Ashlan)								
	Ashlan-Dakota	59.6	66.0	+6.4	Yes	65.7	68.3	+2.6	Yes
	Dakota-Shields	59.6	65.5	+5.9	Yes	65.9	68.2	+2.3	Yes
	Shields-Clinton	58.0	62.0	+4.0	Yes	64.5	65.8	+1.3	No
	Clinton-McKinley	57.5	60.4	+2.9	Yes	64.5	65.3	+0.8	No
	McKinley-Olive	55.8	58.9	+3.1	No	63.5	64.2	+0.7	No
	Olive-Belmont	54.7	57.3	+2.6	No	62.8	63.4	+0.6	No
Bryan Ave	Belmont-Whitesbridge	53.5	55.5	+2.0	No	62.7	63.2	+0.5	No
	Shaw-Gettysburg	56.8	56.8	0	No	63.5	63.5	0	No
	Gettysburg-Ashlan	58.4	58.6	+0.2	No	62.7	62.8	+0.1	No
	Ashlan-Dakota	55.5	55.6	+0.1	No	62.4	62.4	0	No
	Dakota-Shields	51.7	52.2	+0.5	No	62.2	62.2	0	No
Hayes Ave	Shields-Clinton	51.1	51.5	+0.4	No	61.8	62.0	+0.2	No
	Shaw-Gettysburg	54.6	54.6	0	No	59.9	59.9	0	No
	Gettysburg-Ashlan	56.6	56.8	+0.2	No	65.1	65.2	+0.1	No
	Ashlan-Dakota	57.6	57.7	+0.1	No	64.9	64.9	0	No
	Dakota-Shields	53.8	56.9	+3.1	No	63.8	63.9	+0.1	No
Polk Ave	Shields-Clinton	53.7	54.3	+0.6	No	63.5	63.5	0	No
	Ashlan-Dakota	61.7	61.8	+0.1	No	64.5	64.6	+0.1	No
	Dakota-Shields	60.6	61.4	+0.8	No	65.8	65.9	+0.1	No
Blythe Ave	Shields-Clinton	59.3	59.8	+0.5	No	65.6	65.7	+0.1	No
	Ashlan-Dakota	61.2	61.2	0	No	62.9	62.9	0	No
	Dakota-Shields	59.9	59.9	0	No	63.7	63.7	0	No
	Shields-Clinton	61.1	61.4	+0.3	No	64.0	64.1	+0.1	No

Roadway	Roadway Segment Existing (Future)	Existing	Existing + Project	DNL (dB) @ Typical Residential Setback ¹					
				Change ²	Significant?	2030 No Project	2030 + Project	Change ³	Significant?
Brawley Ave	Shields-Clinton	62.9	61.1	-1.8	No	64.4	64.5	+0.1	No
	(Grantland- Veterans)	-0-	-0-	--	No	65.6	65.6	0	No
Shaw Ave	Grantland-Bryan (Veterans-Bryan)	62.6	63.8	+0.2	No	67.2	68.1	+0.9	No
	Bryan-Hayes	62.9	64.2	+1.3	No	65.6	66.9	+1.3	No
Ashlan Ave	Grantland-Bryan	60.2	63.9	+3.7	Yes	61.2	65.0	+3.8	Yes
	Bryan-Hayes	60.9	64.1	+3.2	Yes	62.7	66.0	+3.3	Yes
	Hayes-Polk	60.2	63.7	+3.5	Yes	62.9	66.1	+3.2	Yes
Ashlan Ave	Polk-Cornelia	62.0	64.6	+2.6	No	64.3	66.7	+2.4	No
	Cornelia-Blythe Blythe-Parkway	65.7 66.8	66.8 67.6	+1.1 +0.8	No No	66.8 67.8	68.4 69.1	+1.6 +1.3	Yes No
Dakota Ave	(Grantland-Bryan)	-0-	-0-	--	No	55.0	59.2	+4.2	No
	Grantland-Bryan Bryan-Hayes Hayes-Polk	59.0 59.0 59.4	61.5 63.0 62.2	+2.5 +4.0 +2.8	Yes Yes Yes	61.4 61.8 61.8	63.0 63.8 63.5	+1.6 +2.0 +1.7	No No No
Shields Ave	Polk-Cornelia	59.4	60.9	+1.5	Yes	62.7	63.9	+1.2	No
	Cornelia-Blythe	61.0	61.4	+0.4	No	63.6	64.6	+1.0	No
	Blythe-Brawley	60.6	61.9	+1.3	No	64.3	65.0	+0.7	No
	Brawley-Valentine	62.1	63.2	+1.1	No	64.8	65.4	+0.6	No
	Valentine-Parkway	62.1	63.2	+1.1	No	65.1	65.7	+0.6	No
Clinton Ave	Grantland-Bryan	51.2	55.6	+4.4	No	55.4	57.7	+0.3	No
	Bryan-Hayes	52.7	56.3	+3.6	No	58.5	59.8	+1.3	No
	Hayes-Polk	54.3	57.0	+2.7	No	61.4	62.1	+0.7	No
	Polk-Cornelia	58.0	58.6	+0.6	No	62.4	62.7	+0.3	No
	Cornelia-Blythe Blythe-Brawley	62.3 63.6	62.7 63.8	+0.4 +0.2	No No	64.5 65.2	64.7 65.3	+0.2 +0.1	No No

Roadway	Roadway Segment Existing (Future)	Existing	Existing + Project	DNL (dB) @ Typical Residential Setback ¹					
				Change ²	Significant?	2030 No Project	2030 + Project	Change ³	Significant?
	Brawley-Valentine	64.0	64.1	+0.1	No	66.0	66.1	+0.1	No
	Valentine-Marks	65.3	65.4	+0.1	No	67.4	67.4	0	No
	Marks-Vassar	67.2	67.2	0	No	68.8	68.8	0	No
Veterans Blvd	(Gettysburg S – Gettysburg N)	-0-	-0-	--	No	64.5	68.4	+3.9	Yes
	(Gettysburg N – Shaw)	-0-	-0-	--	No	64.4	68.2	+3.8	Yes
	(Shaw – Barstow)	-0-	-0-	--	No	67.4	68.9	+1.5	Yes
	(Barstow – Bryan)	-0-	-0-	--	No	68.7	69.9	+1.2	No
	(Bryan – SR99)	-0-	-0-	--	No	70.6	71.4	+0.8	No

1. A typical residential setback was assumed to be 75 feet from the center of the roadway for all roadways except for Veterans Boulevard where 100 feet was assumed.

2 Compared to “existing” traffic noise levels.

3 Compared to “2030 No Project” noise levels.

Source: Brown-Buntin Associates, 2012

There is no noise impact mitigation that the project should be required to implement for existing or potential, speculative, development of offsite residential receptors on properties not owned by the project applicant. The Noise Study for this project (Appendix_H) notes that the proposed Veterans Boulevard street is the only roadway that may have significant offsite traffic-related noise impacts. When that roadway and adjacent development is constructed, adequate noise screening, restriction of dwelling structure placement, orientation and design, and restrictions on two-story development along the Boulevard may be required by the City.

Offsite Stationary Noise

Noise levels from the Lamanuzzi & Pantaleo plant would be expected to generate hourly noise levels in the range of 50-55 dBA Leq at the eastern edge of the project site. Such levels would exceed the city's hourly Leq standards for stationary noise sources by up to 5 dB during the daytime hours and by up to 10 dB during the nighttime hours. Maximum noise levels (Lmax) from typical activities within the plant would be expected to be in the range of 55-60 dBA at the eastern boundary of the project site. Such levels would not exceed the city's Lmax standards for stationary noise sources. This would be a potentially significant impact.

It was not possible to quantify noise levels that could be generated by the stadium at the Deran Koligian Education Center as they may affect the project. Noise sources related to the facility include parking lot movements, public address announcements, cheering by the crowd and band music. It is expected that noise from stadium activities would be clearly audible within nearby sections of the project site during football games and other major events. The City of Fresno prohibits the use of loudspeakers or sound-amplifying equipment without first obtaining approval from the City. However, in this instance since school districts are State agencies, the City has no authority to require such approval. For commercial and non-commercial use of sound amplifying equipment, operation is restricted to between the hours of 7 AM and 10 PM and prohibited within 300 feet of churches, schools, or hospitals. Stadium activities would not occur during the nighttime hours between 10:00 p.m. and 7:00 a.m. However, it is estimated that stadium-related activities could occasionally exceed the 50 dBA hourly Leq and 70 dBA Lmax daytime standards of the city's noise element by up to 5 dB. This would be a potentially significant impact.

Noise levels associated with intermittent farming operations adjacent to the project site could occasionally be audible along the western boundary of the project site. Such levels would not be expected to exceed the daytime hourly standards of the noise element. However, it is possible that the existing water pumping facility located about 1,000 feet south of the northwest corner of the project site could exceed the city's nighttime 45 dBA hourly Leq standard if the facility operates during the nighttime hours.

Development of noise-sensitive uses within the project along Grantland Avenue would require that properly designed sound walls be constructed to mitigate traffic noise exposure within the site. It is estimated that 5-10 dB of noise reduction will be required for a typical residential setback along Grantland Avenue. This would be sufficient to mitigate noise from the Deran Koligian Education Center stadium but possibly would not be sufficient to mitigate noise from the Lamanuzzi & Pantaleo plant. Sound walls directly across Grantland Avenue from the

Lamanuzzi & Pantaleo plant should be designed and constructed to reduce noise levels from the plant by 10 dB at the first floor level. It is recommended that two story homes not be constructed on the first row of lots directly across Grantland Avenue from the plant.

It is recommended that a detailed analysis of noise levels generated by the existing water pumping facility located about 1,000 feet south of the northwest corner of the project site be conducted prior to development of the project. The study should include recommendations for noise mitigation by the project developer based on the noise levels produced by the facility and the locations of the closest proposed noise-sensitive uses.

Conclusion: The proposed project would expose people to noise levels in excess of standards established in the General Plan and noise ordinance. Noise impacts from construction, onsite and offsite transportation, and onsite and offsite stationary sources would be *potentially significant*.

Mitigation Measure #3.10.1a: The City of Fresno shall require that construction contractors comply with all applicable local regulations regarding noise suppression and attenuation. The following requirements shall be included in the construction specifications:

- The hours of future construction within the Westlake Development Project site shall be limited to 7:00 a.m. to 7:00 p.m. Monday through Saturday;
- Construction activities shall be prohibited on Sundays and holidays (President's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, Day after Thanksgiving, Christmas Day, and New Year's Day);
- Locate fixed construction equipment such as compressors and generators at distances no less than 300 feet from sensitive receptors (including occupied residential property boundaries);
- Shroud or shield impact tools, and muffle or shield intake and exhaust ports on power construction equipment; and
- All engine-driven equipment shall be in proper tune and shall be fitted with mufflers according to manufacturers' specifications.

Mitigation Measure #3.10.1b: Prior to issuance of building permits for development within the Westlake Development Project site, a detailed acoustical study shall be prepared by a certified professional to document potential impacts to onsite noise-sensitive land uses (as determined by the City of Fresno's General Plan, refer to Table 3.10-5). Potential impacts in exceedance of the City of Fresno's standards including: Maximum Allowable Noise Exposure-Stationary Noise Sources, Maximum Allowable Noise Exposure from Transportation Noise Sources, City of Fresno Incremental Noise Impact Criteria for Noise-Sensitive Uses, and Exterior Noise Standards shall require incorporation of mitigation such as increased setbacks, sound walls, equipment enclosures, site design, and enhanced building materials to reduce impacts to levels below the City of Fresno standards. Development that cannot incorporate mitigation to reduce impacts to acceptable City of Fresno standards shall not be approved.

Mitigation Measure #3.10.1c: Construction within the project of two story homes along Grantland Avenue and adjacent to commercial uses within the project site shall be prohibited unless a detailed acoustical analysis, prepared by a certified professional, can document compliance with the city's 45 dB DNL standard at the upper floor elevation.

Mitigation Measure #3.10.1d: Prior to issuance of building permits for noise-sensitive land uses adjacent to Grantland Avenue a sound wall shall be constructed to reduce noise levels by 10 db or as determined necessary by the acoustical study required by Mitigation Measure #3.10.1b.

Mitigation Measure #3.10.1e: Prior to issuance of building permits for development within the project site, a detailed acoustical study shall be prepared by a certified professional to analyze noise levels generated by the existing water pumping facility located 1,000 feet south from the northwest corner of the project site. The acoustical study shall include recommendations for noise mitigation by the project developer based on the noise levels produced by the facility, and regarding the locations of the closest noise-sensitive land uses, to ensure that the project is in compliance with the City's General Plan noise standards. These mitigation measures shall be incorporated into the project design prior to issuance of the building permit.

Effectiveness of Measures: Implementation of mitigation measures would reduce the project's noise impacts. The residual impacts exposing persons to or generating noise levels defined in the 2025 General Plan or City Noise Ordinance, for the following areas are:

Construction Noise – *Less than Significant.*

Onsite Transportation Noise – *Less than significant.*

Offsite Transportation Noise – *Significant and unavoidable*²

Onsite Stationary Noise – *Less than significant.*

Offsite stationary sources – *Less than significant.*

Impact #3.10.2 – Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.

The effects of ground-borne vibration include movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings.

The important sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. None of these sources are anticipated during construction of the project or operation of mechanical equipment after project construction. The primary vibratory source during the construction of the project could be large bulldozers and loaded trucks. Typical bulldozer or loaded truck activities generate an approximate vibration level of 0.076 to 0.089-inch per second PPV, and 86-87 VdB at a distance of 25 feet. Typically, vibration levels must exceed 80 VdB before annoyance occurs or 100 VdB before building damage occurs. (The Caltrans Transportation and Construction-Induced

² See discussion regarding mitigation infeasibility under Impact #3.10.3.

Vibration Guidance Manual.) The report recommends a threshold of 0.25-inch-per-second PPV as the significance level for continuous events, near older residential structures during construction activities. The nearest existing residential structure is 50 feet north of the project site's northern boundary. It is anticipated that the vibration levels caused by a large bulldozer operating on the edge of the area to be disturbed during construction of the proposed project at that nearest structure (50 feet away) will be less than 0.089-inch-per-second PPV, and other sensitive land uses located further away would experience even lower vibration levels.

Conclusion: This impact would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.10.3 - Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

The City of Fresno has developed significance criteria for project-related increases in ambient noise levels. The City's incremental thresholds are shown in Table 3.10-6.

The proposed project would result in a permanent substantial significant increase in ambient noise levels from vehicular traffic.

Vehicular Traffic

The proposed project would generate additional vehicular trips on roadways serving the project. Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. The potential offsite noise impacts caused by the increase in vehicular traffic, from current and projected noise levels, from the proposed project for project service roadways have been analyzed for the following traffic scenarios for weekday conditions:

- Existing;
- Existing Plus Project;
- 2030 No Project; and
- 2030 Plus Project.

Table 3.10-16 shows that traffic noise exposure at a typical residential setback would exceed the city's 60 dB DNL standard, as a result of the project, along Grantland Avenue between Ashlan and McKinley Avenues and along Shields Avenue between Grantland and Cornelia Avenues for existing plus project conditions. This is considered a potentially significant project-related noise impact. Potentially significant project-related increases in traffic noise exposure would occur along Grantland Avenue between Shaw and Shields Avenues for both existing plus project and 2030 plus project conditions. Potentially significant project-related increases would also occur along Ashlan Avenue between Cornelia and Blythe Avenues and along Veterans Boulevard between Gettysburg and Barstow Avenues for 2030 plus project conditions.

Conclusion: The proposed project would result in an offsite traffic-related violation of noise standards and a substantial permanent increase in offsite traffic-related ambient noise levels in

the project vicinity above levels existing without the project. This would be a *potentially significant impact*.

Mitigation Measures: No mitigation measures are feasible.

Many existing residences along affected streets are already set back far enough, or have intervening walls or buildings, and thus will not be significantly impacted. Currently vacant, developable, properties will be analyzed by the City or County during development planning and permitting, and appropriate traffic noise mitigation required: building placement and design restrictions, sound walls.

Other development contributions to traffic noise levels on streets affected by project-related traffic contribute, and will contribute, to noise level violations. Because the project contributes only a portion of the noise impact to an existing significant noise impact condition, there is no legal ability for the City to demand full mitigation from the project as a condition of approval to correct traffic-related individual-parcel noise levels emanating from the entire northwest Fresno area. In addition, the City has no fee program in place to address this impact.

Conclusion: Offsite transportation noise impacts would remain *significant and unavoidable*.

Impact #3.10.4 Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The City of Fresno has developed significance criteria for project-related increases in ambient noise levels. The City's incremental thresholds are shown in Table 3.10-6.

The proposed project would result in a temporary increase in ambient noise levels from construction activities and onsite stationary noise sources. Each topic will be addressed separately in the following analysis.

Construction

Construction noise will occur at various locations within and outside of the proposed project site throughout the build-out period. During construction of the project, noise from construction activities would potentially impact noise-sensitive land uses in the immediate area. In order for noise impacts created by construction of the proposed project to be considered potentially significant, construction activities would need to occur between 10:00 p.m. and 7:00 a.m. on Monday through Saturday, and anytime on Sunday. For construction activities that occur outside the allowable times of construction a significant impact would occur at the nearby residential uses if construction noise levels exceed 50 dBA Leq, or ambient noise plus 5 dB for situations where the ambient noise exceeds the 50 dBA Leq standard.

If project construction noise is limited to the days and hours specified herein as allowable, the impact will be less than significant.

Onsite Stationary Noise Sources

The greatest potential for on-site noise exposure that could exceed the city's standards shown in Table 3.10-4 would be loading operations and mechanical equipment associated with future commercial activities within the project site.

The city's noise element (Policy H-1-1) pertains to outdoor activity areas exposed to noise from stationary noise sources. Compliance would require that daytime (7:00 a.m.-10:00 p.m.) noise levels from exterior on-site stationary noise sources not exceed an hourly Leq of 50 dBA or an hourly Lmax of 70 dBA within outdoor activity areas of noise-sensitive uses (residential, school, etc. see Table 3.10-5). For sources that may operate during the nighttime hours (10:00 p.m.-7:00 a.m.), the applicable standards are Leq and Lmax values of 45 and 65 dBA, respectively.

Because there are no specific development projects or site plans available for the project site, future development within the site may result in impacts to noise-sensitive uses; this would be a potentially significant impact and will require mitigation. Future development with stationary noise sources within the project site will be required to submit an acoustical analysis to demonstrate compliance with City standards either through the use of setbacks or noise attenuation features.

Noise levels from onsite commercial sources may be effectively mitigated by incorporating noise mitigation measures into the design of noise-producing equipment or the path of transmission between noise sources and residential receptors. Options for noise mitigation include the use of sound walls, equipment enclosures or site design to take advantage of distance and/or acoustic shielding by non-sensitive buildings. It is recommended that two story residential buildings not be located adjacent to commercial uses unless such buildings can be effectively shielded from noise-producing activities or equipment.

Conclusion: The proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project from construction activities and onsite stationary noise sources. This would be a *potentially significant impact*.

Mitigation Measures: Implement Mitigation Measures #3.10.1a and #3.10.1b.

Effectiveness of Measure: Mitigation Measure #3.10.1a would reduce the impacts of construction noise to *less than significant*. Mitigation Measure #3.10.1b and #3.10.1c would reduce potential stationary source impacts to a less than significant level through incorporation of mitigation measures such as setbacks, site design, building materials, enclosures that would be developed during the preparation of the acoustical study and limiting the construction of two story residential buildings adjacent to commercial uses. Onsite stationary noise sources impacts would thus be *less than significant*.

3.11 Population and Housing

INTRODUCTION

This section describes existing and projected population, housing, and employment in the City of Fresno and impacts of the proposed project on these factors are identified and discussed. This section is based on the adopted City of Fresno Housing Element (2008), the 2007 Fresno County Regional Housing Needs Allocation Plan, and U.S. Census and California Department of Finance data.

3.11.1 REGULATORY AND PHYSICAL SETTING

Regulatory

FEDERAL

There are no federal regulations applicable to population and housing.

STATE

California Housing Element Law

State law requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the California Department of Housing and Community Development (HCD) estimates the relative share of California's projected population growth that would occur in each county in the State, based on DOF population projections and historic growth trends. Where there is a regional council of governments, such as the Fresno COG, HCD provides the regional housing need to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the State's projected housing need.

Each city and county must update its general plan housing element on a regular basis (approximately every 5 years). Among other things, the housing element must incorporate policies and identify potential sites that would accommodate a city's share of the regional housing need. Before adopting an update to its housing element, a city or county must submit the draft to HCD for review. HCD will advise the local jurisdiction whether its housing element complies with the provisions of California Housing Element Law.

The councils of governments are required to assign regional housing shares to the cities and counties within their region on a similar 5-year schedule. At the beginning of each cycle, HCD provides population projections to the councils of governments, who then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by the deadline.

LOCAL

Fresno Council of Governments

The Fresno Council of Governments (Fresno COG) is responsible for updating the Regional Housing Needs Allocation (RHNA) Plan. This agency reviews population projections for the County of Fresno as determined by the California Department of Finance (DOF), and determines how to allocate shares of housing need (e.g., number of housing units needed) among the incorporated cities and unincorporated areas throughout Fresno County. The Fresno COG uses a number of criteria to determine how to allocate the number of housing units that will be needed in the next five years to each jurisdiction. The document used to evaluate, calculate, and distribute housing needs is referred to as the RHNA Plan, and the allocation for each housing level category is referred to as the RHNA.

City of Fresno General Plan

Housing Element

Housing in the City of Fresno is primarily addressed through the 2008 Housing Element, which is updated every five years in accordance with State law. The most applicable proposed project related policies and programs of the Housing Element are as follows:

Policy 1.1 Continue the Housing Support Activities of the City and RDA.

Program 1.1.1 – Implementation of General Plan Policies

The City Planning and Development Department and the RDA shall implement and support the 2025 General Plan affordable housing policies and policies for compact and mixed use development. The implementation and regional Cooperation Elements of the 2025 General Plan are supported by the Fresno County Blueprint, which includes the following goals related to housing:

- *Create a range of housing opportunities and choices;*
- *Create walkable neighborhoods;*
- *Mix land uses; and*
- *Take advantage of compact building design.*

Program 1.1.2 – One Stop Processing

The City Planning and Development Department will improve the one stop process to expedite processing of affordable housing projects. The 10 X 10 Affordable Housing subcommittee for the implementation of Innovative Local Government Planning, Incentives, regulations, Permitting and Enforcement will

work with City staff to ensure affordable housing projects are fast tracked for review and approval of development applications.

Policy 2.1 New Construction

The City's RHNA number for new construction for this planning period consists of the following income categories:

*Extremely Low: 2,977
Very Low: 2,202
Low: 3,355
Moderate: 3,312
Above Moderate: 9,121*

Note: Based on 2007 Fresno County Regional Housing Needs Allocation (RHNA) Plan, Approved November 29, 2007. The above numbers may not add up to 20,967 due to rounding.

Program 2.1.1 - Land Demand

The City shall annually monitor the supply of vacant zoned and residential planned land. The City shall also ensure that there is at least a continual 10-year supply of planned residential land and at least a 5-year supply of zoned land to meet the needs of all economic sectors of the community. Where supplies drop below the adopted thresholds, the City shall immediately initiate a General Plan amendment, proactive annexations, rezonings, or zoning actions to ensure an adequate supply and shall explore the possibility of "prezoning" to reduce processing times and costs to potential housing projects. If necessary, to assure affordability, additional environmental documentation shall be prepared.

Program 2.1.2 - Reduction in Density

The City shall comply with density reductions of the State law.

Program 2.1.6 – Multi-family Land Supply

The City will amend the Zoning Ordinance to establish a site plan review procedure for multifamily uses in multifamily zones on lots greater than 2 acres.

Program 2.1.7 - Increase Housing Yields

The City shall annually review applicable State legislation to ensure that its plans and Zoning Ordinance are consistent with State law. Whenever possible, housing yield per acre shall be increased, conserving land, services, and costs. The City Planning and Development Department shall also review the potential for higher yield through flexibility in or removal of governmental constraints

such as street width, setback, coverage, and lot size requirements as set forth in new policies and code changes.

Program 2.1.18 - Inclusionary and Alternative Housing Policy Programs

The City's 10x10 Affordable Housing Strategy shall investigate alternative housing policies and comparable programs to help increase the supply of affordable housing. Also, the RDA, as required by California Redevelopment Law, shall utilize mandated inclusionary housing policies to assist in the production of low- to moderate-income housing units.

Regional Cooperation Element

The following policy of the General Plan Regional Cooperation Element addresses achievement of a jobs/housing balance in the community:

B-2-b. Policy Cooperate with Fresno County, Madera County, the City of Clovis, other cities and special districts to develop a regional approach to economic development which:

- Achieves a jobs/housing balance where the number of job opportunities match the availability and cost of housing;*
- Identifies regional economic development programs designed to create jobs and provide cost-effective incentives to assist business development of regional significance; and*
- Promotes an agricultural-industrial synergy that will enable all agricultural products to be fully prepared and processed locally.*

Land Use Element

Population and housing in the project vicinity is also directly affected by policy direction in the General Plan Land Use Element. The most applicable proposed project related objectives and policies found in the Land Use Element are as follows:

C-1. Objective Establish a comprehensive planning strategy to achieve the efficient and equitable use of resources; to provide for the optimum level of public facilities and services; and to realize an attractive and desirable living environment within the City of Fresno's moderately expanded sphere of influence and planned urban boundary.

C-1-a. Policy Support and pursue all reasonable efforts to include within the City of Fresno's incorporated boundaries the entire area contained within its present urban boundary and ultimately within the expanded urban boundary.

- C-2 Objective Establish a comprehensive general plan that provides for an optimal arrangement of land uses, transportation systems, public facilities and other physical features; that defines the character and quality of life desired within the metropolitan area; and that identifies the guiding principles to determine appropriate development, revitalization and preservation actions within the nine community plan areas consistent with a planning framework of managed peripheral growth, increased economic opportunities and redirected emphasis toward multiple activity centers and a high intensity central corridor.*
- C-2-k. Policy Establish a comprehensive planning strategy for the West Area Community Plan area to support an emerging urban community within an area that has been historically subject to inconsistent planning and development policies as an unincorporated semi-rural component of the metropolitan area.*
- Optimize the efficient utilization of available land area and resources within a constrained urban boundary by supporting development of remaining agricultural lands and providing for moderate density or intensity increases of planned urban uses.*
 - Implement the planned land uses, objectives and policies to establish a full range and intensity of urban uses with the appropriate design and land use compatibility measures.*
 - Pursue all available strategies to establish critical public facilities such as the Grantland Avenue diagonal super-arterial and its interchange with Freeway 99.*
- C-9. Objective Plan for the diversity and quality of residential housing, at locations necessary to provide for adequate and affordable housing opportunities. Housing pattern should support balanced growth, and should make efficient use of resources and public facilities.*
- C-9-i. Policy Medium-low density residential uses shall be designated to preserve those single-family residential neighborhoods which were established with moderately large lots, to provide a transition between low and medium density residential areas.*
- C-9-J. Policy Medium density residential land shall be developed to maximize efficient use and affordability of residential property through a wide range of densities. New residential projects within this land use category should not be permitted to be developed at a density less than the minimum in order to better achieve the goals of the city's Housing Element.*
- C-9-k. Policy Medium-high density residential uses shall be distributed to maximize utilization of available or planned public facilities and services and to provide*

housing opportunities with convenient access to employment, shopping, services, and transportation.

C-10. Objective Promote the development of more compact pedestrian friendly, single-family residential projects to aid in the conservation of resources such as land, energy, and materials.

C-10-b. Policy Amend the zoning ordinance and the general plan/community plan zoning consistency matrices to allow medium-low density residential to achieve up to six units per acre by a conditional use permit process that ensures availability of adequate public services.

C-10-d. Policy Encourage the development of two-story homes as a means to conserve land, maintain open space on residential lots, and provide adequate living space.

C-11 Objective. City will employ multi-family residential densities to meet housing needs in affordable, balanced fashion.

West Area Community Plan

The proposed project site lies within the West Area Community Plan boundary. Following is a list of objectives and polices pertaining to population and housing.

W-1. Objective Promote compatibility between areas planned for, or committed to, active farming operations and areas planned for urban development.

W-1-c. Policy The City of Fresno shall continue to implement its Urban Growth Management (UGM) policies, which encourage orderly development and discourage premature development of land near the planned urban fringe.

W-1-e. Policy When land proposed for urban development abuts actively farmed land that is (1) in an agricultural land conservation contract (including land that is outside the city's sphere of influence boundary); and/or (2) designated in the city's General Plan for continued agricultural use, the development project shall include design features which provide an agricultural/urban buffer as follows:

- *Building setbacks with fencing;*
- *Designated open space (including, but not limited to, densely landscaped strips, full-width multi-use trails or bikeways, and permanent on-site flood control/drainage facilities); and*
- *Boundary streets.*

W-4. Objective Provide acceptable design standards for single-family residential development, to establish and maintain safe, attractive and stable residential neighborhoods; to preserve the long-term integrity of the community.

W-4-a. Policy Apply the following standards to all development proposed within areas designated for medium-low and medium density residential uses:

- *In areas planned for medium-low density residential use, minimum lot size shall be 6,000 SF or larger, except when approved as a clustered planned development pursuant to a special use permit;*
- *In areas planned for medium density residential use, clustered and non-clustered planned development tracts shall require a special permit. In such non-clustered planned development;*
- *Lots under 6,000 SF (reduced-size lots) shall not comprise over 25 percent of all the lots in a final tract map;*
- *Reduced size lots shall be at least 5,400 SF in area and, except for cul-de-sac and corner lots, shall have a minimum width of 60 feet; and*
- *Reduced size lots shall be distributed throughout a tract.*

City of Fresno Municipal Code

Chapter 12 of the City of Fresno’s Municipal Code is the Zoning Ordinance. Several Articles of the Zoning Ordinance contain ordinances relevant to residential and commercial development projects, and more specifically to housing. Among these are:

§§ 12-306-N-21. Planned Development. This section includes the standards and criteria to be used when a planned development is proposed. It includes when a modification or waiver of property development standards can apply; defines types of planned developments; lists the development criteria and standards that shall apply; describes when a density increase may be permitted; when commercial and professional uses can be included; when the use of an architect, landscape architect, or civil engineer is required; when an owners association shall apply; and when subsequent additions, alternations and modifications shall be permitted.

§§ 12-306-N-38. Second Dwelling. This section defines under what conditions a second dwelling is permitted on a residential lot. Second dwellings are typically smaller than the primary dwelling, and may have restrictions on setbacks, parking, size, and zones in which they are permitted.

§§ 12-325. Mixed Use. Mixed use zoning allows for the integration of office, commercial, and light industrial use with residential use. It is intended to provide opportunities for people to live in close proximity to services, products, and employment to promote a user-friendly, walking environment.

Physical Setting (Existing)

The City and County of Fresno have developed a joint policy stating that all urban-intensity development within the City's Sphere of Influence will be referred to the City for annexation and the processing of development entitlements. It should be noted that City ordinances allow for the concurrent processing of development entitlements upon receipt of a written request for annexation. As noted in the Project Description, 370 acres of the proposed project's 460 total acres have been pre-zoned by the City in anticipation of annexation. As noted in Chapter III of the City of Fresno General Plan Housing Element, the lands proposed for the project are included in the City's land use allocations for future residential use, so that there is sufficient annexed and zoned land within the City to accommodate housing needs projections through 2013 and beyond.

Changes in population are generally characterized as social effects. CEQA provides that a social effect of a project shall not by itself be considered a significant effect on the environment (CEQA Guidelines Section 15382). The direction for treatment of social effects is stated in Section 15131(a) of the CEQA Guidelines:

Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.

CURRENT POPULATION, HOUSING AND EMPLOYMENT ESTIMATES

The California Department of Finance estimated the population of the City of Fresno to be 505,009 in 2012. The California Employment Development Department estimated employment in the City of Fresno to be 194,200. Population, housing, and employment characteristics for the City of Fresno are summarized in Table 3.11-1.

**Table 3.11-1
Population, Housing, and Employment Characteristics (2012)**

Population	Dwelling Units	Owner-Occupied Percentage	Persons Per Household	Labor Force	Employment	Unemployment Percentage
505,009	173,660	49.5	3.09	235,200	204,200	13.2

Sources: State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011 and 2012, with 2010 Benchmark. Sacramento, California, May 2012.
California Employment Development Department, Labor Market Information, 2012

HISTORIC GROWTH

Population

The population of Fresno has grown significantly since the 1990's. The City's population has grown at a compound annual growth rate of 1.67 percent. The City's historic population growth between 1990 and 2012 is summarized in Table 3.11-2.

**Table 3.11-2
City of Fresno Historic Population Growth**

Year	Population	Change from Previous (Percent)
1990	350,700	-
1995	401,317	14.4
2000	427,652	6.6
2005	457,786	7.0
2010	494,665	8.1
2012	505,009	2.0
Net Change	154,309	44.0
Compound Annual Growth Rate	1.67	-

Sources: State of California, Department of Finance, Population Estimates, Table E-4, Historical Population Estimates for Cities, Counties, and the State, 1981-1990, 1991 – 2000, with 2000 Census Counts, 2001-2010, with 2000 and 2010 Census Counts. State of California, Department of Finance, Population Estimates, Table E-1 Cities, Counties, and the State Population Estimates with Annual Percent Change— January 1, 2011 and 2012, with 2010 Census Benchmark

Housing

The historical housing growth is calculated from 1990 to 2012. The City's housing units have grown at a compound annual growth rate of 1.35 percent. The City's historic housing growth is summarized in Table 3.11-3.

**Table 3.11-3
City of Fresno Historic Housing Growth**

Year	Dwelling Units	Change from Previous (Percent)
1990	129,358	-
1995	141,908	9.7
2000	149,025	5.0
2005	157,393	5.6
2010	171,034	8.7
2012	173,660	1.5
Net Change	44,302	34.2
Compound Annual Growth Rate	1.35	-

Sources: State of California, Department of Finance, Population Estimates, Table E-4, Historical Population Estimates for Cities, Counties, and the State, 1981-1990, 1991 – 2000, with 2000 Census Counts, 2001-2010, with 2000 and 2010 Census Counts. State of California, Department of Finance, Population Estimates, Table E-1 Cities, Counties, and the State Population Estimates with Annual Percent Change— January 1, 2011 and 2012, with 2010 Census Benchmark

PROJECTED GROWTH

Population

The Fresno Council of Governments (Fresno COG) provided the City of Fresno with population projections for its Map Atlas: Existing Conditions Report, General Plan and Code Update, published in August 2011. Fresno COG's growth projections are used in regional planning efforts such as air quality and affordable housing. Table 3.11-4 summarizes the population growth projections within the City of Fresno and its Sphere of Influence (SOI) from 2010 through 2050. As shown in the table, Fresno COG projects the population of the City of Fresno and its SOI to increase by 528,123 persons between 2010 and 2050, which translates to an increase of 96.8 percent with a compound annual growth rate of 1.71 percent.

**Table 3.11-4
City of Fresno and Sphere of Influence Population Growth Projections**

Year	Population	Change from Previous (Percent)
2010	545,464	-
2015	593,753*	8.9
2016	603,912*	1.71
2020	646,317*	7.0
2025	703,534*	8.9
2030	765,816*	8.9
2035	833,612*	8.9
2050	1,073,587	28.8
Net Change	528,123	96.8
Compound Annual Growth Rate	1.71	-

Source: City of Fresno, Map Atlas: Existing Conditions Report, General Plan and Code Update, August 2011.

* Value calculated by applying the compound annual growth rate

EMPLOYMENT

The California Employment Development Department develops employment projections on a county-wide basis. Industry projections for total employment, which includes Self Employment, Unpaid Family Workers, Private Household Workers, Farm, and Nonfarm employment, is forecasted to reach approximately 410,000 by 2018 in Fresno County. An increase of approximately 19,600 jobs and a growth rate of 5 percent are projected over the ten-year period, lower than the projected statewide growth rate of 9.7 percent.

The Education Services, Health Care, and Social Assistance sector will generate an estimated 4,600 jobs, the most among the major industry sectors. An additional 2,800 new jobs are estimated for Professional and Business Services and 1,900 new jobs are projected in the Government sector. These three sectors account for 50 percent of new jobs in nonfarm employment. The fastest growing nonfarm industry sector is Information with an annual average growth rate of 1.3 percent. Other major industry sectors with significant growth rates are Transportation, Warehousing, and Utilities (1.2 percent) and Education Services, Health Care and Social Assistance (1.2 percent). The Government sector, which makes up about 23 percent

of the county's nonfarm employment, is forecasted to remain relatively flat for the projection period.

Occupational projections for the period 2008 to 2018 forecast:

- Approximately 23,900 new jobs from industry growth;
- About 90,100 job openings from Net Replacements; and
- A combined total of approximately 114,000 job openings.

The 50 occupations with the most job openings will generate about 64,330 jobs, of which 79 percent will be due to replacement needs. The top five occupations are Farmworkers and Laborers, Crop, Nursery, and Greenhouse; Cashiers; Retail Salespersons; Personal and Home Care Aides; and Waiters and Waitresses, all of which require short-term on-the-job training and earn median annual wages less than \$21,000. Elementary School Teachers and Accountants and Auditors require a bachelor's degree and earn median annual wages greater than \$60,000.

The 50 fastest growing occupations have an anticipated growth rate of 12.2 percent or higher for the forecast period. High paying occupations that require a bachelor's degree or higher are Physician Assistants and Physical Therapists, which earn annual wages of \$98,000 and \$74,000, respectively. Other high paying occupations that require an associate degree are Registered Nurses and Respiratory Therapists, with median annual wages of \$80,600 and \$63,700, respectively.

REGIONAL HOUSING NEEDS ALLOCATION PLAN

The Fresno COG prepares the Regional Housing Needs Assessment (RHNA) to allocate regional housing growth among the Fresno County communities. The 2007 RHNA identified a need for 20,967 dwelling units for the City of Fresno (including the SOI) for the 2008 to 2013 planning period. The Fresno COG is currently developing the RHNA for the next planning period.

**Table 3.11-5
City of Fresno Regional Housing Needs Allocation**

Income Category	No. of Units Required	Percent Total
Extremely Low (0 – 30 percent MI)*	2,977	14.2
Very Low (30 – 50 percent MI)	2,202	10.5
Other Low (51 – 80 percent MI)	3,355	16.0
Moderate (81 – 120 percent MI)	3,312	15.8
Above Moderate (> 120 percent MI)	9,121	43.5
Total Units Needed	20,967	100

Source: Fresno Housing Element, 2008

Notes:

* Extremely Low Income figures were calculated pursuant to State HCD guidelines

MI = Median Income

IMPACT EVALUTATION CRITERIA

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with population and housing if it would:

- 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. (See Chapter 7, Impacts Found to Be Less Than Significant)*
- c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. (See Chapter 7, Impacts Found to Be Less Than Significant)*

3.11.2 IMPACT ANALYSIS

Impact #3.11.1 - 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).

CEQA Guidelines Section 15126.2(d) requires that an EIR discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The CEQA Guidelines provide the example of a major expansion of a wastewater treatment plant that may allow for more construction within the service area. The CEQA Guidelines also note that the evaluation of growth inducement should consider the characteristics of a project that may encourage or facilitate other activities that could significantly affect the environment.

This impact will first discuss the potential for direct and indirect growth inducement and then address consistency with regional population and growth projections.

Direct and Indirect Growth Inducement

Direct growth consists of activities that directly facilitate population growth. The construction of new dwelling units is considered an activity that directly results in population growth. Indirect growth inducements consist of activities that in themselves do not facilitate population growth, but instead indirectly cause growth. Examples include the creation of new jobs in a sparsely populated area that results in workers moving into the area or the removal of a physical barrier to growth, such as the extension of sewer service to an unserved area.

A key consideration in evaluating growth inducement is whether the activity in question constitutes “planned growth”. A residential project that is consistent with the underlying General Plan and zoning designations would generally be considered planned growth because it was previously contemplated by these long-range documents, and, thus, would not be deemed to have a significant growth-inducing effect. Likewise, a project that requires a General Plan

Amendment and re-zone to develop more intense uses than are currently allowed may be considered to have a substantial growth-inducing effect because such intensity was not contemplated by the applicable long-range documents. It should be noted that these are hypothetical examples, and conclusions about the potential for growth inducement will vary on a case-by-case basis.

DIRECT POPULATION GROWTH

Project implementation will have a direct impact on the area’s population and housing stock by facilitating the development of up to 2,600 new households and up to 295,000 square feet of neighborhood and community commercial space in northwest Fresno. Table 3.11-6 summarizes the population growth attributable to the proposed project. As shown in the table, the proposed project is expected to increase the City’s population by 8,034 persons.

**Table 3.11-6
Project-Related Population Growth**

Dwelling Units	Average Household Size	Population Growth
2,600	3.09	8,034

Source: California Department of Finance, May 2011

Table 3.11-7 compares the proposed project’s population growth with those provided by the Fresno COG between 2010 and 2050. Although there is no precise development plan available for the proposed project, certain assumptions were used to analyze the project at a programmatic level for CEQA purposes. For example, the Traffic Impact Study assumed that 648 single family residential homes would be built by 2016 and that the project would be built out by 2020.

**Table 3.11-7
Growth Projections**

Year	Fresno COG Projections	Net Increase	Proposed Project Population Growth	Percent of Growth Projections
2015	593,753	-		-
2016	603,912	10,159	2,002	19.7
2020	646,317	42,405	8,034	18.9
Overall Net Increase	-	52,564	8,034	15.3

Notes:

1. 2016 assumes 648 homes constructed
2. 2020 assumes full buildout of 2,600 homes

As shown in Table 3.11-7, the population growth attributable to the proposed project would represent 15.3 percent of the forecasted growth between 2016 and 2020. As noted in Chapter III of the City of Fresno General Plan Housing Element, the lands proposed for the project are included in the City’s land use allocations for future residential use, so that there is sufficient annexed and zoned land within the City to accommodate housing needs projections through 2013 and beyond. Currently, the 460-acre project site is designated for urban uses by the 2025 Fresno General Plan. The project site has approved pre-zoning for approximately 370 of the 460 acres

(Rezone No. R-04-81 was approved by the Fresno City Council on July 26th, 2005; see Figure 2-4). This zoning would become effective upon annexation of the site. Subsequent to annexation and re-zoning, the proposed project site could be developed with Medium Low, Medium and Medium High Density Residential, Neighborhood Commercial, Commercial Office, Public Facility (elementary school), Open Space, and Neighborhood Park land uses in accordance with the City of Fresno General Plan. Thus, the site, if annexed, would foreseeably be developed with approximately the same amount of residential and commercial uses as the proposed project (See Table 3.11-8). The primary concern with significant change in population and housing is whether the change will result in a significant impact associated with unplanned growth. In addition to environmental impacts, unplanned growth can have other deleterious effects, by thwarting the implementation of General Plan and other applicable policies designed to ensure orderly development, or by occurring at a rate that would outpace the availability of essential public services. The project includes policies and guidelines to control and direct growth in a well-planned manner, thus ensuring that such growth would be compatible with existing and future uses and with the General Plan policies related to growth. Because the proposed project’s population growth figures are within the growth projections provided by the Fresno COG, and the project site has been planned for development, it can be concluded that the proposed project would be considered planned growth and, therefore, not “growth inducing”.

**Table 3.11-8
Existing Project Area Land Use, Zoning Densities -
2025 Fresno General Plan and County Zoning**

Land Use Designation	Project Area Acreage Prezoned by the City of Fresno		Allowable Density per Acre	Project Area Acreage Not Prezoned by the City of Fresno	
	Acres	Zoning		Acres	Zoning
Medium Low Density Residential	182	R-1/UGM ¹	2.19 to 6.0 DU/acre	39	AE-20 (County)
Medium Density Residential	93	R-1/UGM ¹	4.99 to 10.37 DU/acre	52	AE-20 (County)
Medium High Density Residential	40	R-2/UGM ¹	10.38 to 18.15 DU/acre	21	AE-20 (County)
Neighborhood Commercial	19	C-1/UGM ¹	25% FAR	11	AE-20 (County)
Public Facilities (Elementary School)	17	R-1/UGM ¹			
Open Space	19	AE-5/UGM ¹		7	AE-20 (County)
Total	370			90	
Site Total				460	

¹Until annexation to the City of Fresno, zoned AE-20 (County)

Note: AE20 = Agriculture, 20 acre minimum
FAR = Floor area ratio

REMOVAL OF BARRIER TO GROWTH

The proposed project would result in the extension of urban infrastructure to an area that is currently not serviced. In particular, potable water and sewer service would be extended to the project site. However, this would not be considered removal of a barrier to growth, because the project site is within the City's Sphere of Influence and is contemplated for urban development by the General Plan. It is expected that the infrastructure extended to the project site would be sized to serve the project, and will not be "over-sized" to serve any additional development in the area. As such, the extension of this urban infrastructure is "growth accommodating" because it is intended to facilitate planned growth.

Conclusion: The impact would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.11.2 - Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

The proposed project site contains no housing units and people are not living on the site. The proposed project would not displace existing housing or people.

Conclusion: Implementation of the proposed project would not result in displacement of substantial numbers of existing housing units or people. *No impact* would occur.

Mitigation Measures: No mitigation measures are required.

3.12 Public Services

INTRODUCTION

This section presents information on existing public services in the project vicinity, including fire and police protection, schools, parks and libraries and describes the potential environmental effects of the proposed project related to the provision of these services. Comments received on the NOP with regard to public services include comments by the Central Unified School District regarding the number of students generated by the project and the District's capacity to accommodate those students. Descriptions and analysis in this section are based on information provided in the City of Fresno General Plan, the City of Fresno website, and responses to questionnaires sent to public service providers. Public service response letters are provided in Appendix K.

3.12.1 REGULATORY AND PHYSICAL SETTING

Regulatory

STATE

California Building Standards Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

The California Fire Code is a component of the California Building Standards Code and contains fire safety-related building standards.

California Green Building Standards Code

The California Green Building Standard Code was adopted January 12, 2009; compliance became mandatory on January 1, 2011. The purpose of this code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design;
- Energy efficiency;
- Water efficiency and conservation;
- Material conservation and resource efficiency; and
- Environmental air quality.

AB 109 Public Safety Realignment

Assembly Bill (AB) 109 Public Safety Realignment took effect in October 2011 and has shifted responsibility for thousands of criminals from the state to the counties. These criminals, many with multiple felony convictions, are no longer eligible for prison or supervision on state parole when released from prison, until they commit a violent or serious crime such as rape, armed robbery, aggravated assault, or residential burglary. Under Realignment, criminals who violate the conditions of their parole, or are convicted of theft-related crimes and felonies such as spousal abuse, assault, and some drug offenses, can only be sentenced to county jail, probation, or treatment programs. As a result, local jails (including the Fresno County jail) are overcrowded.

AB 2926 School Impact Fees

As of January 1987, State law allows school districts to levy three different levels of development fees directly on new residential, commercial, and industrial development (Government Code Section 65995). Level-one fees cannot exceed \$2.97 per square foot of residential construction and \$0.47 per square foot of commercial/industrial construction for K-12 facilities. Districts set their own fees within this limit based on a nexus study establishing their funding requirements. Since Proposition 1A was passed by the voters and SB 50 was passed by the State Legislature in 1996, school fees generated by new development are deemed legally sufficient mitigation of any impacts based on generation of students on school facilities.

SB 50

The Leroy F. Greene School Facilities Act of 1998 (SB 50) and the bond procedures under Proposition 1A of 1998 regulate school facilities financing and mitigation of land use approvals by setting fee caps, removing entitlement application denial authority from lead agencies, and setting the CEQA standard for full and complete mitigation for school facilities. Prior to enactment of the legislation, a city or county had the authority to deny or require full mitigation for projects that required an amendment to a General Plan and/or a zone change. State law now prohibits a local agency from either denying approval of a land use project because of inadequate school facilities, or imposing school impact mitigation measures other than the designated fees provided for in the Government Code. Effective subsequent to 2006, if a statewide bond measure fails, SB 50 would again permit a city or county to deny or refuse to approve a development project that requires a legislative act on the basis of the inadequacy of school

facilities. However, the city or county will not be able to require a higher fee than provided for in the original legislation.

Quimby Act

Passed in 1975, the Quimby Act (California Government Code Section 66477) authorizes local agencies to establish an ordinance requiring new development to pay an in-lieu fee or dedicate land for park and recreation facilities to serve the subdivision. The required dedication and/or fee is based on the residential density, park land cost and other factors. Public land dedicated and/or fees collected pursuant to the Quimby Act may only be used for the purpose of developing new or rehabilitating existing park or recreational facilities. The dedication and/or fee allowed under State law is equivalent to providing three (3) to five (5) acres maximum of park land per one thousand (1,000) persons.

LOCAL

City of Fresno

City of Fresno General Plan

The most applicable City of Fresno General Plan establishes the following applicable goals, objectives, and policies with regard to public services:

Objective E24 *Provide the level of law enforcement and crime prevention services necessary to maintain a safe, secure, and stable urban living environment through a police department that is dedicated to providing professional, ethical, efficient and innovative service with integrity, consistency and pride.*

Policy E-24-b *Facilitate Police Department participation in the implementation of general plan policies, including citizen participation efforts, the application of crime prevention design measures to reduce the exposure of neighborhoods to nonresidents and to promote community surveillance of common areas.*

- *Facilitate police department communication with citizen advisory committees.*
- *Refer all land use and development proposals to the Police Department for review and comment.*
- *Include recommendations for crime prevention design and operational measures as conditions of project approval.*

Policy E-24-c. *Continue to identify and apply appropriate safety design and operational measures as conditions of development entitlement approval including but*

not limited to access control measures, lighting and visibility of access points and common areas, functional and secure on-site recreational and open space improvements within residential developments, and utilization of private "certified" security services.

Policy E-24-e Maximize coordination between the Police Department and the Sheriffs Department to address crime problems in neighborhoods divided by the city's incorporated boundary and continue to explore opportunities for combining and consolidating services when it provides a means to improve the level of law enforcement provided to the community.

Policy E-24-f Identify and pursue measures and methods to improve law enforcement services.

- *Implement a process which provides for Police Department review and approval of major events including concerts, sports contests, community celebrations, exhibitions and other events generating large attendances which will ensure that adequate event staffing is provided to maintain crowd control, traffic safety and to meet law enforcement needs on and off-site.*
- *Establish at least one Problem Oriented Policing (POP)/TAC office in each policing area.*
- *Consider utilization of alternative means of patrol and apprehension such as air support (helicopter or other aircraft), foot patrol or bicycle and horse mounted patrol.*
- *Maintain a long-range law enforcement budget planning program to identify revenue and expenditure trends and establish funding mechanisms (including but not limited to the consideration of assessment districts) to address revenue deficiencies.*

Objective E25 Ensure that the Fire Department's staffing and equipment resources are sufficient to implement all requests for fire and emergency service from the citizens of Fresno.

Policy E-25-b Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing instant aid agreements, will lead to the eventual unification of fire protection services in the metropolitan area of Fresno.

Policy E-25-c Continually evaluate the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings (defined by Health and Safety Code Section 13210 (b) as every building of any type of construction or

occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access).

Policy E-26-a Use adopted general and specific plans, the city's GIS database, and the fire station location program to achieve optimum siting of future fire stations. For those station sites identified by the 2025 General Plan Land Use and Circulation Map (Exhibit 4) but not yet acquired by the city, the underlying alternative land uses shown on Table 5 shall be applied.

Policy E-26-b Provide for an average response time of not more than five minutes for all emergency requests for service within the metropolitan area.

Objective E27 Enhance the level of fire protection to meet the increasing demand for services from an increasing population. Achieve a better fire insurance rating by augmenting human and equipment resources.

Policy E-27-c Continue Fire Department review of all development proposals in order to ensure the inclusion of adequate on-site and off-site fire protection provisions.

Policy E-27-d Adopt and enforce construction and fire codes that restrict the level of risk to life and property from fire, commensurate with the fire suppression capabilities available to the city.

Policy E-27-e Continue to ensure that adequate water supplies and hydrants are available for fire suppression within all existing urban areas as well as newly developing areas.

Policy E-27-f Investigate and implement methods to generate fees to off-set the ongoing personnel and maintenance costs of providing fire protection.

Policy E-28-c The implementation of strategies by school districts to provide and efficiently utilize facilities is to be considered an important factor by the City of Fresno when contributing its resources or utilizing its legislative authority to require school fees. The city cannot impose any school impact fee (other than those mandated by state law), unless the school districts clearly demonstrate an efficient utilization of facilities including, but not limited to, the following considerations:

- Construction of new or expanded permanent school site facilities;*
- Interim measures such as year-round schedules; and*
- Use of portable classroom structures, transporting students to campuses with available student capacity and double or evening sessions.*

Policy E-28-d *The acquisition of school sites and construction of school facilities that are equal to, or greater than, the state standards for school enrollment and school site size by all school districts serving the metropolitan area is a high priority of the City of Fresno.*

Policy E-28-e *Support measures to acquire planned school sites and construct school facilities, including the assessment of additional school fees on new development, consistent with applicable state and federal laws and the following:*

- *Development fees are determined necessary to ensure that new development contributes its equitable share of the full cost of constructing new schools;*
- *These development fees are uniformly applied within a school district's boundaries; and*
- *All reasonable and diligent efforts have been made to utilize other potentially available sources of funds.*

Policy E-29-a *Schools should be located and designed to facilitate safe and convenient access to circulation systems including pedestrian and bicycle routes whenever possible; maintain compatibility with surrounding land uses; contribute to a positive neighborhood identity; and, support the over-all community design objectives of the general plan, community plan or applicable specific plan.*

- *Work closely with representatives of public and private schools during the preparation and amendment of plans (particularly land use, circulation and public facilities elements), and the processing of development proposals to ensure that plan policies are well-conceived and effectively implemented.*
- *Require school districts to provide necessary street improvements, pedestrian facilities, public facilities and public services at each new school site.*
- *Continue to designate appropriate school sites on the general plan land use map (as well as applicable community and specific plans) compatible with the locational criteria of each school district.*
- *When school districts propose a new school site inconsistent with an adopted plan, or in zone districts where schools are not permitted, the city shall require a plan amendment and rezone application for the site. Pursuant to state law, districts shall also obtain the appropriate special permit.*

Policy E-29-b Pursue the cooperative development and utilization of school sites with adjacent neighborhood parks for both school activities and non-school related recreational activities.

Policy E-29-c Encourage school districts to request the designation of needed new school sites on the appropriate plan land use map, at the earliest time possible, in order to facilitate planning for compatible land uses and better ensure that future school sites can be accommodated. For those public school sites designated by the 2025 General Plan Land Use and Circulation Map (Exhibit 4) not yet acquired by the appropriate district, the alternative land uses shown on Table 3 shall be applied.

- *Alternative sites for new public school facilities within the Fresno Unified School District are identified by the Existing and Planned Public School Sites Map (Appendix F). Selection and acquisition of an alternative school site as depicted in Appendix F is deemed to be consistent with the land use provisions of the general plan.*
- *The City shall consult with the affected school districts to assure that adequate school sites are identified and planned for in preparing the appropriate community or specific plans for the North and Southeast Growth Areas.*

Policy F-1-f The City of Fresno will continue to pursue implementation of an open space standard of 3.0 acres of public park land for every 1,000 persons residing in the city's planning area and will ensure the development of sufficient park land in areas designated for higher density. This park acreage standard includes the following components:

<i>Neighborhood Parks</i>	<i>0.75 acres/1,000</i>
<i>Community Parks</i>	<i>0.25 acres/1,000</i>
<i>Regional Parks</i>	<i>2.00 acres/1,000</i>
<i>Total</i>	<i>3.00 acres/1,000</i>

Policy F-1-g The City will achieve its park space acreage standards by using the following matrix for allocating park space when land use plans are formulated:

<i>Park Type</i>	<i>Size Range (Acreage)</i>	<i>Population Served</i>	<i>Service Area Radius</i>
<i>School ground/playfield</i>	<i>1 - 2.5</i>	<i>3,000 – 5,000</i>	<i>¼ to ½ mile</i>
<i>Neighborhood</i>	<i>39,578</i>	<i>10,000 – 15,000</i>	<i>½ to 1 mile</i>
<i>Community</i>	<i>15 – 20</i>	<i>50,000 – 80,000</i>	<i>2 to 4 miles</i>
<i>Regional</i>	<i>100+</i>	<i>100,000</i>	<i>30 minute</i>

Policy F-1-h *When land use plans are formulated and analyzed, recreational open space acreage will be inventoried separately from open space devoted to agricultural and aesthetic (e.g., landscape buffering) purposes.*

Policy F-2-a *Utilize the following priorities and guidelines in acquiring and developing parks and recreation facilities. These priorities and guidelines are intended to be used in the preparation of the city's annual capital improvement program. Scheduling of park projects may be influenced by changing financial conditions and limitations of particular funding sources. The priority list will be reevaluated at least every three years. Priorities may also be reorganized in consideration of community needs and the long-range financial ability of the city.*

- *Acquire and develop neighborhood park space in existing developed neighborhoods that are deficient of such space.*
- *Complete recreation facilities in existing neighborhoods.*
- *Improve existing neighborhood parks throughout the urban area.*
- *Acquisition and development of neighborhood parks in new growth areas shall continue to be funded by development fees, such as Urban Growth Management (UGM) program fees. When 95 percent of the target funding has been collected in a UGM park service area, all designated parks in that service area shall be built within two years, unless precluded by development restrictions.*
- *Recognize community parks as a special need in areas that lack these facilities and explore all potential sources of revenue (including the addition of community park funding to the Urban Growth Management program) to secure appropriate sites and develop these recreational facilities.*
- *Pursue the development of regional parks (combining both passive and active recreation uses) in southwest Fresno.*
- *Cooperate with Fresno Metropolitan Flood Control District and Fresno County to develop a regional park to serve the southeastern portion of the city.*
- *Develop new special purpose recreation facilities as needed.*

City of Fresno West Area Community Plan

Objective W-2 *Provide comprehensive mechanisms for funding and timely construction of needed public facilities including, but not limited to, streets, sidewalks, drainage facilities (including curbs and gutters), sewer and water utilities, schools, fire stations, law enforcement substations, and parks.*

Policy W-2-a *The design of public services shall be based on planned development intensity. Appropriate sizing criteria shall be determined for public facilities, based on population and land use designations with sufficient additional reserve capacity to provide a reasonable margin of safety for potential variations in population growth and intensity of use.*

Policy W-2-b *Public facilities shall be sited for greatest efficiency and economy. For instance, the geographic size of the West Area and the population of this area at buildout will require at least two police department substations to provide adequate response capability. Law enforcement substations (Police Department dressing stations) should be co-located with fire stations, parks, or other public facilities, as may be appropriate.*

City of Fresno Municipal Code

SEC. 12-4.501. - PURPOSE.

Pursuant to the policies, procedures, and requirements made applicable to the management of growth within the Urban Growth Management Area, established herein by reference to that document entitled "Urban Growth Management Process," dated December 5, 1975, adopted and modified from time to time by Council resolution, the purpose of this article is to achieve the orderly use and development of land within such Area by providing a process under the Subdivision Ordinance Article 10, Chapter 12, or this Zoning Ordinance for the construction or modification of buildings and structures in such Area or the change of occupancy of such buildings or structures.

An integral part of Urban Growth Management is a process referred to herein as the Urban Growth Management Process. The Urban Growth Management Process is intended neither to prevent any development or growth nor to permit free or disorganized development or growth in the Urban Growth Management Area. Such process is instead intended to identify the demands on municipal facilities, improvements, or services created by any proposed residential, commercial, industrial, or other type of development and to provide the means for satisfying such demands; to identify any deleterious effects of any such development and protect the city and its residents against such effects by minimizing the costs of municipal facilities, improvements, and services; and to maintain a high quality of such facilities, improvements, and services. (Added Ord. 76-6, § 1, eff. 2-22-76; Am. Ord. 98-54, § 2, 8-27-98).

Central Unified School District

Funding for schools and impacts for school facilities impacts is preempted by State law (Proposition 1A/SB 50, 1998, Government Code Section 65996) which governs the amount of fees that can be levied against new development. These fees are used to construct new schools. Payment of fees authorized by the statute is deemed “full and complete mitigation.”

Physical Setting (Existing)

FIRE PROTECTION

The North Central Fire Protection District (Fire District) provides fire protection and emergency medical services to the project site. The Fire District contracts with the Fresno Fire Department to staff fire stations and respond to calls. The contract became effective July 1, 2007 and is for a 30 year term. The Fire District receives the proceeds of fire transition fees levied by the Fresno County Local Agency Formation Commission (LAFCo) for annexations.

The City of Fresno Fire Department offers a full range of fire prevention, fire suppression, and emergency medical care services within the city limits. Fire prevention services are provided to all commercial, industrial, and various residential establishments by routine inspections each year, depending upon the occupancy type. Adoption of an ordinance requiring installation of automatic fire sprinklers in all new large buildings, except dwellings and lodging houses, has substantially reduced fire risk factors, thereby reducing overall costs to the city's fire protection services budget.

Fire protection is provided from 24 city fire department stations. Other fire station sites have been purchased or planned to ensure that the established level of fire protection is maintained as growth occurs. The Fresno Fire Department currently has 309 sworn safety personnel, 15 sworn non-safety personnel, and 25 non-sworn support personnel (Letter from Rob Brown, Fire Chief January 14, 2013). Under guidelines established by the city's Urban Growth Management (UGM) Policy, the permanent service area of fire stations, for urban development, has been set at a two-mile "running" distance. On an interim basis, until new stations can be constructed, the "running" distance from an existing fire station may be extended to three miles to allow the development of standard residential projects.

The city has instant aid agreements with surrounding agencies and districts whereby the nearest fire station responds to an emergency regardless of the jurisdiction within which it is located. These agreements, plus the city's own resources, provide a high quality of fire suppression and emergency medical care services.

Temporary Fire Station 18, located at 5398 N. LaVentana Avenue is the closest station to the project site and is approximately 1.6 miles north-east of the northern boundary of the project site. Station 16, located at 2510 North Polk is the closest permanent fire station to the proposed project site and is approximately two miles from the southeastern boundary of the project site.

Response times: The Deccan software (utilized by the Fire Department) gives an overall department average for first unit total response time of 5:09 minutes, and a first unit total response time of 5:49 minutes for the zone adjacent to Ashlan and Grantland Avenues. Travel further west of this intersection will increase the total response time for the first-due unit.

Calls for service: The Fresno Fire Department for 2011 had the following calls for service (per 1,000 population) for the project area: Fire – 5; EMS – 43; Other – 22.

EMERGENCY SERVICES

American Ambulance provides emergency medical services and transport on a contractual basis for the City of Fresno. American Ambulance Paramedics and Emergency Medical Technicians respond to over 135,000 calls originating from 4,000 square miles in Fresno and Kings Counties annually. American Ambulance employees 550 personnel and maintains almost 100 ground and air ambulances.

American Ambulance's contract with Fresno County sets their response times standards, which are measured from the time the call is received in their dispatch center to the time the ambulance crew arrives on the scene of the call. These standards are set as a percentage of compliance instead of average response time. American Ambulance's response time standard for the metropolitan portion of Fresno County is 10 minutes or less, 95 percent of the time. American Ambulance has met this contractual requirement for priority 1 and 2 calls every month since February 2008. Priority 1 calls are life threatening emergency calls to which American Ambulance responds with red lights and siren. Examples include chest pain, unconscious person and cardiac arrest. Priority 2 calls are non-life threatening emergency calls to which American Ambulance also responds with red lights and siren. Examples include abdominal pain, certain falls and unknown problem.

American Ambulance responded to 86,471 calls in the City of Fresno from October 1, 2011 to September 30, 2012.

LAW ENFORCEMENT

The Fresno Police Department provides a full range of police services including uniformed patrol response to calls for service, crime prevention, tactical crime enforcement (including gang and violent crime suppression), and traffic enforcement/accident prevention. The provision of these services is supplemented by the Investigative Services Division, which investigates cases involving crimes against persons and property, follows up on intelligence information, and is actively involved in vice/narcotics control and enforcement.

In addition to these enforcement-related services, the Police Department also provides extensive crime prevention assistance, including residence and business security inspections; neighborhood and business watch group formation, and public presentations. The Fresno County Sheriffs Department provides similar law enforcement and crime prevention services to the unincorporated portions of the metropolitan area.

The project site will fall within the Northwest Policing District (NW). The closest police station (3781 N. Hughes) is located approximately 5.5 miles from the project's central boundary. There are approximately 78 police officers assigned to patrol the Northwest Policing District.

The Northwest Policing District is the largest policing district in Fresno in both population and area. In 2000, 153,116 people lived within the 34.35 square miles that comprises this district. This means that roughly 32.6% of the entire city population lives in the NW Policing District. By 2010, the NW population had grown to 161,260 which is 63,000 more people in the Northwest Policing District than live in the entire City of Clovis.

Greater population in the Northwest Policing District means greater population densities than other parts of the City. As an example, in 2010 NW had a population density of 4,694.6 persons per square mile while the SW Policing District had the least dense population at 3,204.3 persons per square mile or 31.8% fewer.

As might be expected based on the previous population and density figures compiled from US Census Data, the Northwest Policing District ended 2011 with the highest number of law enforcement calls for service in the City of Fresno. Officers working in Northwest Fresno handled 61,237 calls for service including nearly 31,000 high priority and emergency calls.

Despite providing law enforcement services for the largest population and area of Fresno, and handling the largest number of law enforcement calls for service in the City, the Northwest Policing District has made significant strides in controlling crime. Reductions in violent crime including felony assaults (-5.2%) and domestic violence (-5.9%) as well as in property crimes such as vehicle burglary (-13.1%) and a reduction in auto theft (-2.7%) were obtained in 2011.

FRESNO COUNTY PUBLIC PROTECTION FACILITIES

Countywide public protection facilities are unique County responsibilities not duplicated by cities. The County owns land, office buildings, and other special public protection facilities including jails and juvenile detention facilities. The County has also made a significant investment in a cogeneration plant used almost entirely to provide energy for the countywide public protection facilities. New development will increase the demand for such facilities. The County assesses a fee for new development; the fee is based on the type of development (residential/non-residential) and the location (within an incorporated City or outside).

The proposed project with its associated population growth would add to the demand on the jail.

PUBLIC SCHOOLS

Educational services for the proposed project will be provided by the Central Unified School District (CUSD). CUSD has 19 schools (including one alternative school and one continuation school) and more than 13,500 students. Students (in grades 7-8) from the proposed project would attend the District's Deran Koligian Educational Complex at the northwest corner of Ashlan and Bryan Avenues. A high school is proposed at the same Education Complex, however until that location is open, students (in grades 9-12) from the project would attend

Central High School – East Campus. The District will need to construct a new elementary school within the vicinity of the proposed project to accommodate the new students generated at the K-6 grade levels. A 12-acre parcel within the project boundaries is presently planned for an elementary school site.

Table 3.12-1 shows CUSD’s enrollment from 1996-97 to 2011-12. The District’s student enrollment increased 69 percent (6,092 students) during that period. Central Unified anticipates continued growth despite the present economic uncertainty. In 2009, the voters within the Central Unified school district approved Measure B. It is a 10-year building program to build four new schools, and hundreds of essential projects district-wide.

**Table 3.12-1
CUSD Enrollment
1996-97 to 2011-12**

Academic Year	No. of Students
2010-12	14,896
2010-11	14,817
2009-10	14,547
2008-09	14,266
2007-08	14,180
2006-07	13,515
2005-06	12,713
2004-05	12,375
2003-04	11,851
2002-03	11,289
2001-02	10,548
2000-01	10,290
1999-00	9,885
1998-99	9,696
1997-98	9,347
1996-97	8,804

Source: Education Data Partnership

PARKS AND RECREATION

Recreational amenities and attractive open spaces are crucial for maintaining an urban area's image and desirability, on a citywide scale as well as at a neighborhood level. The Fresno-Clovis Metropolitan Area is a major urban center with a diverse population that includes a high proportion of children. Therefore, numerous and varied forms of recreation are required to adequately serve this population. A wide range of recreational facilities and activities needs to be physically and financially accessible to people throughout the metropolitan area.

Aside from city facilities and programs, the Fresno-Clovis Metropolitan Area offers the following recreational opportunities:

- Federal, state, county, and special district outdoor recreation areas;
- School playgrounds;

- Nonprofit and cultural organizations (e.g., Girls and Boys Clubs);
- Special districts (e.g., Fresno Metropolitan Flood Control District, Calwa Park and Recreation District, Clovis Memorial District);
- Commercial recreation (two water parks and other amusement parks); and
- On-site recreational open space that serves residential developments (provided for by General Plan Urban Form Element/Land Use policies and the Zoning Ordinance).

Stallion Park is the closest neighborhood park to the project site and is located 6.6 miles northeast of the project site. The closest regional park is Woodward Park, which is located 12.5 miles northeast of the project site.

The focus of the proposed project will be a 55-acre manmade (“artificial”) lake, oriented in a north-south direction and over one mile in length. In addition to being a recreational amenity, the lake will also detain storm water and incidental drainage flows.

As discussed in Chapter 2, Project Description, it is anticipated that a homeowners association (“HOA”) will own and operate the lake facility. Additionally, the HOA will own and/or operate a clubhouse, public areas adjacent to streets (landscaped setbacks, sidewalks, trails, etc), and the trail system.

LIBRARIES

The Fresno County Public Library provides services through its Central Resource Library and 34 branches. The Fresno County Library serves the ninth largest service population in California with the fourth largest square mileage. It is third in the number of outlets, with only the enormous Los Angeles Public Library and Los Angeles County Library having more outlets. The Fresno County Library is part of the San Joaquin Valley Library System, a cooperative network of nine public library jurisdictions in the counties of Fresno, Kern, Kings, Madera, Mariposa, and Tulare. The Fresno County Public Library offers a variety of classes, events, and other enrichment opportunities to the citizens of Fresno County. Services include but are not limited to computer classes, job and career services, story hours for preschoolers and toddlers, teen outreach programs that encourage reading, senior services including large print books, and a literacy program that offers tutoring services for non-English-speaking adults. There are 12 library branches in the Fresno-Clovis Metropolitan area. The nearest branches to the project site are the Gillis Branch Library located 6.9 miles away at 639 Dakota Avenue and the Fig Garden Branch Regional Library located 7 miles away at 3701 West Bullard Avenue.

In 1998, over two-thirds of Fresno County voters approved Measure B, a local one-eighth of one percent sales tax measure, to improve library services throughout Fresno County. It was renewed by voters in 2004, expired in March 2013, and was renewed during the fall 2012 elections extending the sales tax for an additional seven years. Measure B funds currently provide 55 percent of the library’s operating revenue (and nearly all of its capital revenue). Both

sales tax revenue (Measure B) and property tax revenue are subject to fluctuations due to external economic pressures. The third major source of revenue, various state funding sources, is also subject to external economic and budgetary forces. During the recent economic downturn, the Fresno County Library has seen its revenues decline significantly, while experiencing an increase in visitors to the libraries.

Despite the infusion of revenue provided by Measure B, according to the most recent Organizational Assessment report (Goodrich 2008), the library is still below the state per capita expenditure average. According to data published by the California State Library, the average per capita level for Fiscal Year 2007 was \$31.74, whereas the Fresno County Library expenditure per capita was \$23.37. This places the library at about the 37th percentile in the State. Materials expenditure per capita are also less than the state average, with the Fresno County Library at \$2.88 as compared to the state average of \$3.41. This places the Fresno County Library at the 42nd percentile.

The Facilities Development Plan 2002-2020, adopted by the Fresno County Supervisors in 2003, identified a list of projects to expand and/or construct new library facilities throughout the County. The Plan determined that without any changes to the existing system several facilities would be inadequate to serve population growth and additional communities would have grown to the point of needing facilities to serve their community. Several projects in the Development Plan have been implemented; however, much work remains and an update to the Plan is anticipated, since Measure B was renewed by voters in the 2012 election. By the year 2025, Fresno County will have grown to a population of over 1.3 million. Because of this, most branch libraries and the Central Library will need to expand. Even with Measure B's continuation, additional revenues will be needed to allow for the expansion necessary to serve the population growth.

3.12.2 IMPACT EVALUATION CRITERIA

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with public services if it would:

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times of other performance objectives for any of the public services:

- *Fire protection'*
- *Police protection;*
- *Schools;*
- *Parks; and*

- *Other public facilities.*

3.12.3 IMPACT ANALYSIS

Impact #3.12.1 - Increased Demand for Fire Protection Services and Personnel.

Development of the proposed project will increase the demand for fire protection services in northwest Fresno. This could require the City to hire more personnel and purchase additional equipment.

According to the Fresno Fire Department (Letter from Rob Brown, Fire Chief January 14, 2013), based on a projected project build out population of approximately 8,000 residents, the project will generate about 560 calls for emergency services annually. This development will result in challenges to the ability of the Fire Department to deliver a full-alarm assignment / Effective Response Force to the project area. A first alarm assignment to detached residential housing consists of 3 engine and 2 truck companies. For multi-family and commercial development, the first-alarm assignment consists of 5 engine and 2 truck companies. It will take approximately 17 minutes for the second-responding truck company to reach the boundary of the project area. Travel on the internal roadway may add up to 2 minutes to the response time. The objective is to deliver a Total Effective Response Force, in suburban areas, within 10 minutes, 20 seconds, 90 percent of the time. The Fire Department is not currently meeting this objective, and the following improvement strategies are documented to address this issue for the entire service area:

1. Continue to expand installation of traffic pre-emption technology;
2. Use expanded prevention efforts to reduce the number of fire calls;
3. Seek additional grants and other funding to improve daily staffing levels in high fire areas; and
4. Modify the service level expectations.

The City has Fire Facilities Fees. In order to implement the goals and objectives of the City's general plan, and to mitigate the impacts caused by future development in the city, fire department facilities must be constructed. The City Council has determined that a Fire Facilities Fee is needed in order to finance these facilities and to pay for each development's fair share of the facilities' construction and acquisition costs.

Conclusion: The project will require that additional fire protection facilities be built by the developer to accommodate the project. As indicated in Mitigation Measure #3.12.1, construction of Fire Station 18 at its permanent location (West Shaw and North Bryan) will be required. The site of the proposed Fire Station 18 is vacant disturbed land in a rural area of northwest Fresno. Prior to development of the new Fire Station, the project will be subject to CEQA evaluation. Because fire stations such as this are generally located on small areas of land, have few employee trips, do not generate significant air emissions and/or otherwise harm the environment, it is not reasonably foreseeable that construction and operation of the Fire Station will cause significant environmental impacts. Therefore, the impact is *less than significant*.

Adherence to the existing policies of the City of Fresno General Plan and payment of fire development impact fees will ensure that additional fire protection services and personnel are provided (when needed) and that new development will not proceed until sufficient fire protection services are assured. However, implementation of the Fire Department strategies listed above are long-term objectives that cannot be fully addressed in the timeframes needed to significantly improve response to the project area. Therefore, this impact is *potentially significant*.

Mitigation Measure #3.12.1: The following mitigation measures will reduce the emergency service impacts of this project:

1. Provide automatic fire sprinkler systems in all buildings (except “U” occupancies) regardless of square footage. Comply with California Building and Fire code requirements regarding fire sprinkler standard designations as adopted by the City.
2. Subject to the provisions of a Development Agreement addressing construction funding, the Developer shall commence and complete construction of Fire Station 18 at its permanent location (Shaw and Bryan), in compliance with the City’s plans, standards and specifications as reasonably determined by the Fire Chief or his/her designee, prior to any of the following events, whichever event occurs first:
 - a. The issuance of the building permit for the 201st residential unit within the Westlake Development;
 - b. A combination of the issuance of the building permit for the 201st residential unit within the Westlake Development and for final tract maps recorded or multiple family units approved after the certification of the Final EIR within the service area of Permanent Station No. 18; and
 - c. The opening of the proposed new high school at the Koligian Educational Complex, scheduled for Fall of 2016.
3. Avoid the installation of stop signs along primary access roads within the project area local street system. Signalization of intersections with traffic interruption technology is preferred.
4. As currently prohibited by Public Works Standards, traffic undulations for traffic calming are not allowed on public streets; this prohibition needs to continue in the project area should Public Works reconsider such installations in the future. Additionally, traffic undulations on any private roads or drive lanes within parking lots in the project area need to be prohibited. Other traffic calming technologies (bulb-outs, medians, islands, etc.) will be evaluated on a case-by-case basis as to the impact on emergency response times.
5. All fire access drive gates on private roads and parking lot drive lanes shall be provided with radio frequency gate opening devices (i.e. “Click-to-enter”) in addition to the standard police/fire bypass keyway. Manually operated gates across required fire access roadways is prohibited.

Effectiveness of Mitigation Measures: Implementation of these mitigation measures, in conjunction with payment of fire development impact fees will result in impacts from the project to fire protection services to a level that is *less than significant*.

Impact #3.12.2 - Increased Demand for Law Enforcement Services.

Development of the proposed project will increase the demand for additional law enforcement services in northwest Fresno. This could require the City, which will provide law enforcement protection to the project site upon annexation, to hire more personnel and purchase additional equipment. In a letter dated February 11, 2013 from Lieutenant Jon Papaleo (Northwest District Commander), information was provided as to potential impacts to the police department as a result of the proposed project. The Fresno Police Department completed a comparative analysis of a similar development in the Northeast Policing District. The “like” development consists of 2,837 residential units. The proposed project consists of 2,600 residential units. The development in the Northeast Policing District generated approximately 274 police calls for service within a one year period. The Police Department anticipates that the project will generate the need for an additional eight law enforcement officers to serve the project population at full buildout.

General Plan Policy E-24-b says that the City will refer all land use and development proposals to the Police Department for review and comment and that the Department will include recommendations for crime prevention design and operational measures as conditions of project approval.

The City also collects Police Facilities Fees. The purpose of the fees is to implement the goals and objectives of the City's general plan, and to mitigate the impacts caused by future development in the city certain police facilities must be constructed. The City Council has determined that a Police Facilities Fee is needed in order to finance such facilities and to pay for each development's fair share of the facilities' construction and acquisition costs.

Conclusion: Adherence to City of Fresno General Plan policies and the payment of Police Facilities Fees and Fresno County impact fees will ensure that adequate law enforcement protection and public protection facilities are provided to serve residents in the project area. Based on information from the City's Police Department, the project will generate the need for an additional eight law enforcement officers. However, it is not anticipated that the project will require construction of new police facilities to support the project. Therefore, there are no adverse physical impacts associated with construction of new police facilities as a result of the project. The Police Department recommended an additional measure to maintain acceptable law enforcement protection:

Mitigation Measure #3.12.2: The applicant shall pay all Police Impact fees and consult with appropriate Police Department staff regarding security needs during all aspects of the Westlake Development.

Effectiveness of Mitigation Measures: Implementation of this mitigation measure, in conjunction with payment of police facilities fees, will further reduce impacts from the project to police protection services to a level that is *less than significant*.

Impact #3.12.3 - Increased Demand on Public Schools.

At build-out, the proposed project would generate approximately 1,498 students in grades K-12. If schools in the area do not have adequate capacity this could be a potentially significant impact.

According to the District's January 16, 2008 letter on the NOP for the project, the District will be able to accommodate the project for grades 7-8 at the Educational Complex at the northwest corner of Ashlan and Bryan Avenues. New students at the 9-12 grade levels will be accommodated at the existing Central High School – East Campus, until such time as a new high school is built at the same Educational Complex. This would presumably occur prior to 2019 given the 10-year building program adopted as part of Central Unified's Measure B (not related to the Library Measure B). A new elementary school will be needed in the vicinity to accommodate students in grades K-6. A 12-acre parcel within the project boundaries is planned for an elementary school site at the northwest corner of Grantland and Dakota Avenue.

A site for the new school is included in the project description and is therefore included in the environmental analysis contained in this DEIR. However, because this is a Program EIR, prior to development of the new school the school site must be evaluated to determine whether additional CEQA documentation needs to be prepared. The construction of a new elementary school is not likely to result in additional significant environmental impacts. Several similarly sized elementary school projects (SCH#2010051030-Fresno Unified-8.43 acres, 800 elementary students; SCH#2009031075-Sanger Unified-13 acres, 600 students; SCH#2005121133-Kerman Unified- 20 acres, 600-800 students) in Fresno County have undergone environmental review utilizing Mitigated Negative Declarations.

As discussed in the regulatory section, funding for schools and school facilities impacts are proscribed by State law (Proposition 1A/SB 50, 1998, Government Code Section 65996) which governs the amount of fees that can be levied against new development. These fees are used to construct new schools. Payment of fees authorized by the statute is deemed "full and complete mitigation." The project will comply with the payment of school impact fees to Central Unified.

Conclusion: Payment of impact fees will result in a *less than significant impact* to the increased demand on public schools.

Mitigation Measures: No mitigation measures are required.

Impact #3.12.4 - Increased Demand on Parks and Recreation.

Implementation of the proposed project will result in an increase in population and subsequently an increased need for parks and recreation facilities. If the passive and active recreational needs of existing and future residents are not met, this could be a potentially significant impact.

Policy F-1-f states that the City of Fresno will continue to pursue implementation of an open space standard of 3.0 acres of public park land for every 1,000 persons residing in the City's Planning Area. The proposed project could have a total population of 8,034 persons at build-out (based on the State Department of Finance's 3.09 persons per household estimate, multiplied by

2,600 units). This would equate to a need for almost 24 acres of parkland based on the City's standard. Per policy F-2-a, the proposed project will construct parkland and/or pay development impact fees for the acquisition and development of parks and recreation facilities to meet the project's needs. The proposed project would create a 55-acre manmade lake approximately one mile in length (this will provide recreational opportunities for non-contact activities such as non-motorized boating). It is anticipated that a homeowners association will own and operate the lake facility. Based on the City's existing lack of accessible parks and public recreational space, project-related park and recreation facilities demand is a *potentially significant impact*.

The City has established Park Facilities Fees. In order to implement the goals and objectives of the City's general plan, and to mitigate the impacts caused by future development in the City, certain park facilities must be constructed. The City Council has determined that a Park Facilities Fee is needed in order to finance these public facilities and to pay for each development's fair share of the construction and acquisition costs.

The proposed project would create a 55-acre manmade lake approximately one mile in length and an 8,000 to 12,000 square foot clubhouse facility with fitness/workout rooms, lockers, banquet facilities, pools, administrative offices, restrooms, meeting rooms, and a child care center. The clubhouse is not fully designed at this time but will serve as a "focal point" of the community and will serve the day to day needs of the residents in Westlake. A lake-side trail (approximately 2.5 acres in total area based on a 10 foot wide swath) will also be included next to the new collector road that will encircle the lake. The lake will be designed per applicable FMFCD policies and be consistent with the policies of the General Plan. The clubhouse facilities will meet health and safety, zoning, building, and other relevant City codes.

Impacts associated with the construction of the lake, trail and clubhouse facilities have been analyzed in the Draft EIR under various topical sections (refer to Section 3.2 Agricultural Resources, Section 3.3 Air Quality, Section 3.4 Biological Resources, Section 3.5 Cultural Resources, Section 3.6 Geology and Soils, 3.7 Hazards and Hazardous Materials, Section 3.8 Hydrology and Water Quality, Section 3.10 Noise, and Section 3.15 Utilities and Service Systems). Where applicable, mitigation measures have been included to reduce potential significant adverse impacts. With the exception of Aesthetics, Agricultural, Air Quality, Noise and Traffic resources, impacts in other resource areas have been reduced to a less than significant level. These impacts were found to be significant and unavoidable for buildout of the entire project, which would include the recreational facilities. There are no impacts beyond what was analyzed in other sections.

Under Mitigation Measure #3.13.1, the developer may potentially construct or contribute to construction of new or additional park facilities. It is not known where these facilities, if they are constructed or required, would be or the scope or size of these facilities. Therefore, it would be speculative to conduct CEQA analysis at this time. If such facilities are constructed, CEQA analysis will be required.

Conclusion: The project would increase the demand on existing parks and recreation facilities and would also require the construction of new facilities; the impact would be *potentially significant*.

Mitigation Measures: Implement Mitigation Measure #3.13.1 which states: “The developers of the Westlake project shall comply with the adopted City of Fresno open space policy and shall create “onsite” (or participate in the creation “offsite”) an equivalent of 3 acres of park space/1000 persons; approximately 24 acres in total. Prior to the processing of the project’s Conditional Use Permit, the applicant shall provide a “Parks and Open Space Plan” to the City of Fresno for review and approval. That plan will identify the parks and open spaces within the boundaries of the Westlake project. Parks and other open space facilities located within the project will be linked together by paths and/or Class I trails, or may be developed using traditional development patterns as outlined in the Fresno General Plan policies. Maintenance of public parks and open spaces within the Westlake project boundaries shall be provided by either a Homeowner’s Association or a Community Facilities District, or a combination of the two. The developer will be entitled for parks fee credits for parks and other open space facilities associated with the project. In consideration of receiving these credits, the developer has agreed to renovate an existing City of Fresno park facility to be determined by the City. The value of the fee credits and renovation will be subject to the project's adopted Development Agreement.”

Effectiveness of Measure: Implementation of this measure would reduce the impacts to parks and recreation to a *less than significant level*.

Impact #3.12.5 - Increased Demand on Library Services.

Implementation of the project would directly add an estimated 8,034 residents (Based on Department of Finance estimates) to the City of Fresno’s population, which could result in accelerated use of local libraries. Since 1998, the County of Fresno has expanded its library services due in part to the success of Measure B. The measure is a one-eighth of one percent sales tax, providing funds for improvement of library services throughout the County. The County had funding for ongoing improvements through March 2013, when Measure B was set to expire; a ballot measure to extend Measure B for another 12-year period was approved by two-thirds of the voters in the 2012 elections.

The Fresno County Library has projected a deficiency in the system’s capacity to serve population growth and has an adopted Facilities Development Plan. The population growth attributable to the project would not be sufficient to trigger the need for additional library facilities on its own; however, in conjunction with overall population growth additional facilities or expansion of current facilities will be required.

Given the current economic conditions, additional public financing is unlikely. While the project’s residents would contribute to the provision of library services through payment of sales taxes as part of Measure B, it does not appear that this will sufficiently pay for new facilities.

If new facilities were constructed, the Library would rely on the existing facilities development plan, “The Heart of a Community: Its Public Library – Meeting Library Needs for Fresno County Residents: 2002-2020”, which requires that construction of new facilities occur within existing developed areas to serve established populations. It is unknown at this time, where new library

facilities would be located and their design and scope. However, there are a number of locations that would be available in and around the project site meeting the “Heart of a Community” siting guidelines. It is not reasonably foreseeable at this time that construction of new library facilities in and around the project site, which is an urban use consistent with many other uses in the City, would cause significant impacts to the environment.

Conclusion: Impacts would be *less than significant*.

Impact #3.12.6 – Increased demand on Public Protection Facilities.

As discussed above under Physical Setting, Fresno County provides public protection facilities such as jails to serve the Fresno County population. New development will increase the demand for public protection facilities. The County assesses a fee for new development; the fee is based on the type of development (residential/non-residential) and the location (within an incorporated City or outside).

Implementation of the project would directly add an estimated 8,034 residents (Based on Department of Finance estimates) to the City of Fresno’s population, which could result in accelerated use of the local jail. The Fresno County jail presently experiences overcrowding as a result of budget cuts reducing the number of jail floors and the influx of inmates as a result of state realignment, which has resulted in the early release of inmates. It can be reasonably concluded that any additional demand for services would likely exacerbate the situation by increasing demand and/or requiring the provision of new or expanded facilities.

It is not known at this time where new public protection facilities would be located, or their size and scope. However, such an urbanized use would not necessarily be inconsistent with a number of vacant sites in and around the City or County. Therefore, it is not reasonably foreseeable at this time that they would cause significant impacts to the environment. Before they could be constructed, CEQA would be required and feasible mitigation imposed for any significant impacts.

Conclusion: Impacts would be *less than significant*.

Mitigation Measures: None are required.

Impact #3.12.7 – Increased Demand on Paramedic Services.

American Ambulance is the sole 9-1-1 provider for the Exclusive Operating Area of Fresno County and Kings County in Central California. As stated previously, their operating response time standard is to be on scene within 10 minutes of receiving a call to their dispatch center, 95 percent of the time. American Ambulance has met this standard consistently since February 2008.

American Ambulance provided a written response (Appendix K) indicating that the proposed project would not present any significant challenges to the ability of their organization to provide adequate ambulance services. American Ambulance estimated that the Westlake Development

Project would generate less than ten additional calls annually. Accordingly, the proposed project would have a less than significant impact on ambulance services.

Conclusion: *Less than significant impact.*

Mitigation Measures: None are required.

3.13 Recreation

INTRODUCTION

This section presents information on existing public services in the project vicinity with regard to parks and recreation, and describes the potential environmental effects of the proposed project related to providing recreational services.

3.13.1 REGULATORY AND PHYSICAL SETTING

Refer to Section 3.13.1 for additional information on the regulatory and physical setting in the City of Fresno and proposed project vicinity with regard to parks and recreation. Local policies regarding the development of ponding basins and recreational lakes are described below.

Regulatory

LOCAL

City of Fresno General Plan

The City of Fresno 2025 General Plan establishes the following policies that are applicable to recreation:

F-1-f. Policy *The City of Fresno will continue to pursue implementation of an open space standard of 3.0 acres of public park land for every 1,000 persons residing in the city's planning area and will ensure the development of sufficient park land in areas designated for higher density. This park acreage standard includes the following components:*

<i>Neighborhood Parks</i>	<i>0.75 acres/1,000</i>
<i>Community Parks</i>	<i>0.25 acres/1,000</i>
<i>Regional Parks</i>	<i>2.00 acres/1,000</i>
<i>Total</i>	<i>3.00 acres/1,000</i>

F-1-g. Policy *The City will achieve its park space acreage standards by using the following matrix for allocating park space when land use plans are formulated:*

<i>Park Type</i>	<i>Size Range (Acreage)</i>	<i>Population Served</i>	<i>Service Area Radius</i>
<i>School ground/playfield</i>	<i>1 - 2.5</i>	<i>3,000 – 5,000</i>	<i>Vs to ½ mile</i>
<i>Neighborhood</i>	<i>39,578</i>	<i>10,000 – 15,000</i>	<i>½ to 1 mile</i>
<i>Community</i>	<i>15 – 20</i>	<i>50,000 – 80,000</i>	<i>2 to 4 miles</i>
<i>Regional</i>	<i>100+</i>	<i>100,000</i>	<i>30 minute</i>

F-1-h. Policy When land use plans are formulated and analyzed, recreational open space acreage will be inventoried separately from open space devoted to agricultural and aesthetic (e.g., landscape buffering) purposes.

F-2-a. Policy Utilize the following priorities and guidelines in acquiring and developing parks and recreation facilities. These priorities and guidelines are intended to be used in the preparation of the city's annual capital improvement program. Scheduling of park projects may be influenced by changing financial conditions and limitations of particular funding sources. The priority list will be reevaluated at least every three years. Priorities may also be reorganized in consideration of community needs and the long-range financial ability of the city.

- *Acquire and develop neighborhood park space in existing developed neighborhoods that are deficient of such space.*
- *Complete recreation facilities in existing neighborhoods.*
- *Improve existing neighborhood parks throughout the urban area.*
- *Acquisition and development of neighborhood parks in new growth areas shall continue to be funded by development fees, such as Urban Growth Management (UGM) program fees. When 95 percent of the target funding has been collected in a UGM park service area, all designated parks in that service area shall be built within two years, unless precluded by development restrictions.*
- *Recognize community parks as a special need in areas that lack these facilities and explore all potential sources of revenue (including the addition of community park funding to the Urban Growth Management program) to secure appropriate sites and develop these recreational facilities.*
- *Pursue the development of regional parks (combining both passive and active recreation uses) in southwest Fresno.*
- *Cooperate with Fresno Metropolitan Flood Control District and Fresno County to develop a regional park to serve the southeastern portion of the city.*
- *Develop new special purpose recreation facilities as needed.*
- *G-4-g. Policy Maintain a comprehensive conservation program that reduces per capita water usage in the city's water service area. This policy includes the adoption and implementation of policies for development of artificial lakes.*

CITY OF FRESNO MUNICIPAL CODE

In 2005, the city adopted a citywide park facilities fee which requires that new development help fund new park facilities at a standard of 3 acres per 1,000 residents. Previous to this policy, only development in Urban Growth Management areas (i.e., greenfield) paid park development fees. Shortly thereafter, the city also instituted a policy that required that all residential subdivisions greater than 10 acres provide onsite public open space. Only a nominal number of parks have been developed through this latter policy, which is largely attributed to the decline in residential construction. Prior to the implementation of these two policies, the vast majority of new development in non-greenfield areas were exempt from paying in-lieu fees or providing public open space. Combined, the policies were intended to provide greater parity and to better distribute open space throughout the city.

Section 12-4.702. – Park Facilities Fee Established

- (a) A park facilities fee ("the Fee") is established to pay for municipally owned park and recreation facilities.
- (b) The City Council shall, in a Council resolution adopted after a duly noticed public hearing, set forth the amount of the Fee, describe the benefit and impact area on which the Fee is imposed, set forth the municipally owned public facilities to be financed with the revenue from the Fee, describe the estimated cost of those facilities, and describe the reasonable relationship between the Fee and the various types of future developments and set forth the time for payment of the Fee. (Added Ord. 2005-113, § 1, eff. 11-7-05).

Section 12-408. - Director Classification Procedure

A private health or fitness club is allowed, pending the Director's approval and a CUP in the C-P zoning district. Other planned services, including a restaurant and bar in a hotel/motel are also permitted in this zoning district. A child-development center is permitted in most residential and commercial zones.

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

The Fresno Metropolitan Flood Control District, in January 1987, included in their policy manual a series of suggestions regarding private lakes in their Policy Manual. The Policy Manual states, "The preservation, conservation and recharge of the surface water entitlements of the Fresno-Clovis metropolitan area for recharge of the local groundwater aquifer is a long-term objective of the Fresno Metropolitan Flood Control District. The following were suggestions to all involved entities to assist in securing this objective.

- A. A private lake developer should demonstrate that the proposed lake(s): (1) will not have a substantial negative impact on water use when compared to the alternative if other open-space uses such as landscaping; (2) will not increase net water use or increase the risk of negative groundwater quality impacts; and (3) will not divert water from a more efficient or

productive recharge facility resulting in increased evaporation losses and recharge efficiency losses.

- B. The surface water entitlement used for private lake water level maintenance, or recharge within the private lake, should be the subject of an entitlement contract with the entitlement agency. Such contract should provide that the private lake shall be subordinate in water delivery priority to public recharge facilities also relying on surface water deliveries, and, that said agency will satisfy all delivery requirements to public facilities before delivery is made to private facilities.
- C. A private lake developer who includes recharge in the lake's purpose should agree to forfeit receipt of surface waters when it is determined that the maintenance required to sustain such recharge is no longer performed or has become ineffective in maintaining the lake's recharge capacity.

The District has these policies concerning the design, construction, operation, and maintenance of private lakes.

- A. The private lake design, construction, and operation must avoid the creation or maintenance of conditions conducive to mosquito breeding. Such design, construction and operations plan must be reviewed and approved by the appropriate mosquito abatement authority.
- B. The private lake plan must provide for appropriate and regular maintenance. If groundwater recharge is a design purpose of the lake, the maintenance program must maintain the lake's recharge capacity.

The design must also include sufficient freeboard area and volume to safely control overflowing, with minimum area and volume minimums included. The design and operations plan must include a plan for relief and dewatering. The private lake developer must prepare a formal maintenance program that includes the timing and method of lake draining for maintenance purposes. Specific criteria must also be included when the private lake is to include storm runoff management in its design, include a method of direct relief to FMFCD facilities and calculations to demonstrate the routing of a 100-year, 10-day event through the lake. A public drainage easement must be granted to the FMFCD at no cost, and an on-going maintenance program must be developed. Finally, the District will prohibit all non-storm drainage discharges into its systems. All discharges into the District's system must comply with established storm water quality discharge standards as may be enacted by appropriate local State and Federal agencies.

Physical Setting (Existing)

PARKS AND RECREATION

According to the General Plan Map Atlas Existing Conditions Report for the City of Fresno General Plan and Code Update prepared in August 2011, open space accounts for 4,173 acres of existing land uses within the incorporated City boundaries and 756 acres within the Sphere of Influence, overall this equates to 5 percent of the land in the total planning area. More than half

of the existing open space, including private golf courses and parks in gated communities, is not accessible to the general public although it fulfills recreational needs.

Although there are over 4,000 acres of open space, the city operates far fewer facilities. The city maintains roughly 1,617 acres of open space and nearly 230,000 square feet of building space dedicated to recreational/educational purposes scattered amongst 104 sites. Due to financial troubles, the city partnered with several non-profit organizations to help manage some of these facilities. Many city parks provide amenities other than simply green space. For example, the city maintains four community pools, 518 picnic tables, 153 barbeque grills, three amphitheaters, 54 baseball/softball fields, 53 football/soccer fields, 40 basketball courts, volleyball and tennis courts, and skate and dog parks. Of the 4,019 acres of open space, ponding/recharge basins account for 1,273 acres. Owned by the Fresno Metropolitan Flood Control District (FMFCD), all serve as ponding basins for storm drainage while some also act as year-round groundwater recharge basins. Whenever feasible, FMFCD and the city partner to develop parks with play equipment and sports fields at basins. These basins are designed with two floor levels. The upper floor is available for recreational uses while the lower level is used for ground water recharge. The park system also provides and maintains 34 acres of off-road trails for pedestrians and cyclists. There are additional bike lanes on city streets.

Schools augment the city's park system given that they provide additional opportunities through joint use agreements. Schools are ideal for programmed activities such as softball and basketball. Unfortunately, not all schools are open during non-school hours, which limits their use. Additional open space is provided in the form of landscape buffers along major streets. Although aesthetically pleasing, they do not provide recreational opportunities.

Further urban development will necessitate additional facilities. As the city matures and demographics change, it is anticipated that less private space in the form of yards will be provided; thus, more people will rely on public space to fulfill their outdoor needs. According to the 2025 General Plan, planned open space and public space should include 2,408 acres, 14 percent of all vacant land within the City of Fresno and its Sphere of Influence. Unfortunately, many areas in the city still lack accessible parks and public recreational space.

Existing Conditions

There are no recreational facilities currently located on the project site. The Deran Koligian Education Center, which includes a stadium and track facility is located adjacent to the project sites northeastern boundary. Stallion Park is the closest neighborhood park to the project site and is located 6.6 miles northeast of the project site. The closest regional park is Woodward Park, which is located 12.5 miles northeast of the project site.

IMPACT EVALUATION CRITERIA

The state CEQA Guidelines set forth criteria for the determination of whether a project's effect will significantly impact recreation. A project's effect will normally be considered potentially significant if the following apply:

- 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 recreation facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

3.13.2 IMPACT ANALYSIS

Impact #3.13.1 - 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.

Policy F-1-f states that the City of Fresno will continue to pursue implementation of an open space standard of 3.0 acres of public park land for every 1,000 persons residing in the City's Planning Area. The proposed project could have a total population of 8,034 persons at build-out (based on the State Department of Finance's 3.09 persons per household estimate, multiplied by 2,600 units). This would equate to a need for almost 24 acres of parkland based on the City's standard. Per policy F-2-a, the proposed project will construct parkland and/or pay development impact fees for the acquisition and development of parks and recreation facilities to meet the project's needs. The proposed project would create a 55-acre manmade lake approximately one mile in length (this will provide recreational opportunities for non-contact activities such as non-motorized boating). It is anticipated that a homeowners association will own and operate the lake facility. Based on the City's existing lack of accessible parks and public recreational space, the project's recreation and park demand is a *potentially significant impact*.

The City has established Park Facilities Fees. In order to implement the goals and objectives of the City's general plan, and to mitigate the impacts caused by future development in the City, park facilities must be constructed. The City Council has determined that a Park Facilities Fee is needed in order to finance these public facilities and to pay for each development's fair share of the construction and acquisition costs.

Conclusion: The impact would be *potentially significant*.

Mitigation Measure #3.13.1: The developers of the Westlake project shall comply with the adopted City of Fresno open space policy and shall create "onsite" (or participate in the creation "offsite") an equivalent of 3 acres of park space/1000 persons; approximately 24 acres in total. Prior to the processing of the project's Conditional Use Permit, the applicant shall provide a "Parks and Open Space Plan" to the City of Fresno for review and approval. That plan will identify the parks and open spaces within the boundaries of the Westlake project. Parks and other open space facilities located within the project will be linked together by paths and/or Class I trails, or may be developed using traditional development patterns as outlined in the Fresno General Plan policies. Maintenance of public parks and open spaces within the Westlake project boundaries shall be provided by either a Homeowner's Association or a Community Facilities District, or a combination of the two. The developer will be entitled for parks fee credits for parks and other open space facilities associated with the project. In consideration of

receiving these credits, the developer has agreed to renovate an existing City of Fresno park facility to be determined by the City. The value of the fee credits and renovation will be subject to the project's adopted Development Agreement.

Effectiveness of Measure: Implementation of this measure will reduce the impacts to parks and recreation to a *less than significant level*.

Impact #3.13.2 - Does the project include recreation facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

The proposed project would create a 55-acre manmade lake approximately one mile in length and an 8,000 to 12,000 square foot clubhouse facility with fitness/workout rooms, lockers, banquet facilities, pools, administrative offices, restrooms, meeting rooms, and a child care center. The clubhouse is not fully designed at this time but will serve as a “focal point” of the community and will serve the day to day needs of the residents in Westlake. A lake-side trail (approximately 2.5 acres in total area based on a 10 foot wide swath) will also be included next to the new collector road that will encircle the lake. The lake will be designed per applicable FMFCD policies and be consistent with the policies of the General Plan. The clubhouse facilities will meet health and safety, zoning, building, and other relevant City codes.

Impacts associated with the construction of the lake, trail and clubhouse facilities have been analyzed in the Draft EIR under various topical sections (refer to Section 3.2 Agricultural Resources, Section 3.3 Air Quality, Section 3.4 Biological Resources, Section 3.5 Cultural Resources, Section 3.6 Geology and Soils, 3.7 Hazards and Hazardous Materials, Section 3.8 Hydrology and Water Quality, Section 3.10 Noise, and Section 3.15 Utilities and Service Systems). Where applicable, mitigation measures have been included to reduce potential significant adverse impacts. With the exception of Aesthetics, Agricultural, Air Quality, Noise and Traffic resources, impacts in other resource areas have been reduced to a less than significant level. These impacts were found to be significant and unavoidable for buildout of the entire project, which would include the recreational facilities. There are no impacts beyond what was analyzed in other sections.

If new off-site facilities were constructed (See Mitigation Measure #3.13.1), such facilities would be subject to environmental review under CEQA . It is not known at this time where new park/recreational facilities would be located, or their size and scope. However, such an urbanized use would not necessarily be inconsistent with a number of vacant sites in and around the City or County. Therefore, it is not reasonably foreseeable at this time that they would cause significant impacts to the environment. Before they could be constructed, CEQA would be required and feasible mitigation imposed for any significant impacts.

Conclusion: The impact would be *less than significant*.

Mitigation Measures: None are required.

3.14 Transportation/Traffic

INTRODUCTION

This section analyzes the existing transportation system in the proposed project area and addresses the potential transportation and circulation impacts resulting from development of the proposed project. Additional discussions are included related to transit facilities, bicycle facilities, pedestrian facilities, and regional transportation concepts that are not yet planned and funded. Peters Engineering Group completed a traffic impact study (TIS) for the proposed project that serves as the basis for this section. The complete analysis, inclusive of technical data sheets, is provided as Appendix I.

The proposed project will include up to 2,600 residential units (consisting of both single-family and multi-family structures) and 27 acres of neighborhood commercial uses. A central feature of the proposed project will be a large manmade lake encircled by a loop road providing access to various portions of the project. An amendment to the 2025 Fresno General Plan Circulation Element to delete the planned major street segments of West Ashlan and West Dakota Avenues west of Grantland Avenue will be required to accommodate the proposed project circulation system. The circulation system within the proposed project will consist of dedicated public streets and will incorporate roundabouts rather than stop-signed controlled intersections or internal traffic signals. A series of trails and bike lanes are planned that will link the various neighborhoods to each other and to future site school facilities.

Site access to the proposed project will be oriented to Gettysburg, Ashlan, and Dakota Avenue alignments and Grantland Avenue intersections. On-site access streets will connect with Garfield Avenue along the Ashlan and Dakota Avenue alignments, with another street connection to Dakota Avenue at the approximate midpoint of Grantland and Garfield Avenues. Each of the proposed on-site access streets will connect to the interior loop road of the proposed project, while providing access to the various project neighborhoods and amenities.

Summary of Project Buildout

Year of Completion	Single Family	Multi-Family	Commercial	Lake
2016	648 units	-	-	Constructed and filled
2018	703 units	274 units	147,500 sq. ft.	-
2020	702 units	273 units	147,500 sq. ft.	-
Total:	2,053 units	547 units	295,000 sq. ft.	-

For purposes of this analysis, it is assumed that the proposed project will have constructed the following improvements:

- Construction of the entire frontage of Grantland Avenue to its ultimate right-of-way configuration prior to full buildout of the project;
- Construction of Gettysburg Avenue west of Grantland Avenue prior to completion of 648 residential units; and

- Construction of Dakota Avenue between Grantland Avenue and Hayes Avenue prior to full buildout of the project.

The study intersections and road segments used in the traffic impact analysis were determined by Peters Engineering Group in consultation with the following agencies: City of Fresno, Fresno County, and the California Department of Transportation (Caltrans). The study locations were determined considering various factors, such as the volume of Project traffic expected, the volume of background traffic expected, and the existing or anticipated future level of service. Proximity or distance from the site is not a primary condition. For example, Garfield Avenue west of the Project site is not projected in the 2025 Fresno General Plan to experience substantial traffic volumes and the affected agencies did not request that it be analyzed. However, since a substantial amount of the Project traffic is expected to utilize routes east of the site, many of the study locations to the east are located at a greater distance from the site. The analyses were performed in general conformance with the *City of Fresno Traffic Impact Study Report Guidelines* dated February 2, 2009 and the Caltrans *Guide for the Preparation of Traffic Impact Studies*.

The TIS analyzed the following intersections:

1. Grantland Avenue and Whitesbridge Avenue (State Route 180);
2. Grantland Avenue and Belmont Avenue;
3. Grantland Avenue and Olive Avenue;
4. Grantland Avenue and McKinley Avenue;
5. Grantland Avenue and Clinton Avenue;
6. Bryan Avenue and Clinton Avenue;
7. Hayes Avenue and Clinton Avenue;
8. Polk Avenue and Clinton Avenue;
9. Cornelia Avenue and Clinton Avenue;
10. Blythe Avenue and Clinton Avenue;
11. Brawley Avenue and Clinton Avenue;
12. Valentine Avenue and Clinton Avenue;
13. Marks Avenue and Clinton Avenue;
14. Grantland Avenue and Shields Avenue;
15. Bryan Avenue and Shields Avenue;
16. Hayes Avenue and Shields Avenue;
17. Polk Avenue and Shields Avenue;
18. Cornelia Avenue and Shields Avenue;
19. Blythe Avenue and Shields Avenue;
20. Brawley Avenue and Shields Avenue;
21. Valentine Avenue and Shields Avenue;
22. State Route (SR) 99) southbound (SB) ramps / Shields Avenue / Parkway Drive;
23. Westlake Loop Road and Southern Access;
24. Westlake Loop Road and Dakota Avenue (western);
25. Westlake Loop Road and Dakota Avenue (eastern);
26. Grantland Avenue and Dakota Avenue;
27. Bryan Avenue and Dakota Avenue;
28. Westlake Loop Road and Ashlan Avenue (western);
29. Westlake Loop Road and Ashlan Avenue (eastern);

30. Grantland Avenue and Ashlan Avenue;
31. Bryan Avenue and Ashlan Avenue;
32. Hayes Avenue and Ashlan Avenue;
33. Polk Avenue and Ashlan Avenue;
34. Cornelia Avenue and Ashlan Avenue;
35. Blythe Avenue and Ashlan Avenue;
36. Westlake Loop Road and Gettysburg Avenue Access;
37. Grantland Avenue and Gettysburg Avenue South;
38. Grantland Avenue and Shaw Avenue;
39. Veterans Boulevard and Shaw Avenue;
40. Bryan Avenue and Shaw Avenue;
41. Hayes Avenue and Shaw Avenue;
42. Veterans Boulevard and Barstow Avenue;
43. Veterans Boulevard and Bryan Avenue;
44. Veterans Boulevard and Gettysburg Avenue North;
45. SR 99 SB ramps and Herndon Avenue (trip trace only);
46. SR 99 northbound (NB) ramps and Herndon Avenue (trip trace only);
47. SR 99 NB ramps and Veterans Boulevard (trip trace only);
48. SR 99 SB ramps and Veterans Boulevard (trip trace only);
49. SR 99 SB ramps and Shaw Avenue (trip trace only);
50. SR 99 NB ramps and Shaw Avenue (trip trace only);
51. SR 99 SB ramps and Ashlan Avenue (trip trace only);
52. SR 99 NB ramps and Ashlan Avenue (trip trace only);
53. SR 99 NB ramps and Golden State Boulevard (trip trace only);
54. SR 99 SB ramps and Clinton Avenue (trip trace only); and
55. SR 99 NB ramps and Clinton Avenue (trip trace only).

Where an intersection required a trip trace (estimated number of project trips at a given location) only, the volume of Project traffic expected to occur at the intersection was presented, but operational analyses of the intersection were not required by the affected agencies.

Internal Project intersections on the Westlake Loop Road are analyzed only for the full buildout condition based on year 2030 traffic volumes. The estimated internal traffic volumes suggest that the Westlake Loop Road can be constructed as a two-lane collector road with left-turn lanes at most locations with acceptable functionality throughout all phases of the project. However, since the current analyses are programmatic, traffic analyses focusing on the operation of internal roadways may be required by the City of Fresno when specific development plans are proposed.

The TIS also analyzed the following street segments:

1. Grantland Avenue between Shaw Avenue and Whitesbridge Avenue;
2. Bryan Avenue between Shaw Avenue and Clinton Avenue;
3. Hayes Avenue between Shaw Avenue and Clinton Avenue;
4. Polk Avenue between Ashlan Avenue and Clinton Avenue;
5. Blythe Avenue between Ashlan Avenue and Clinton Avenue;
6. Brawley Avenue between Shields Avenue and Clinton Avenue;
7. Shaw Avenue between Grantland Avenue and Hayes Avenue;

8. Ashlan Avenue between Grantland Avenue and Parkway Drive;
9. Dakota Avenue between Grantland Avenue and Bryan Avenue;
10. Shields Avenue between Grantland Avenue and Parkway Drive;
11. Clinton Avenue between Grantland Avenue and Vassar Avenue; and
12. Veterans Boulevard between Gettysburg Avenue (south) and SR 99.

The locations of the study intersections and road segments are presented in Figure 3.14-1, Study Intersections and Road Segments.

The TIS analyzed the following scenarios:

Baseline Conditions

- Existing Conditions
- Year 2016 No Project Conditions
- Year 2021 No Project Conditions
- Year 2030 Cumulative No Project Conditions (assumes site is vacant)

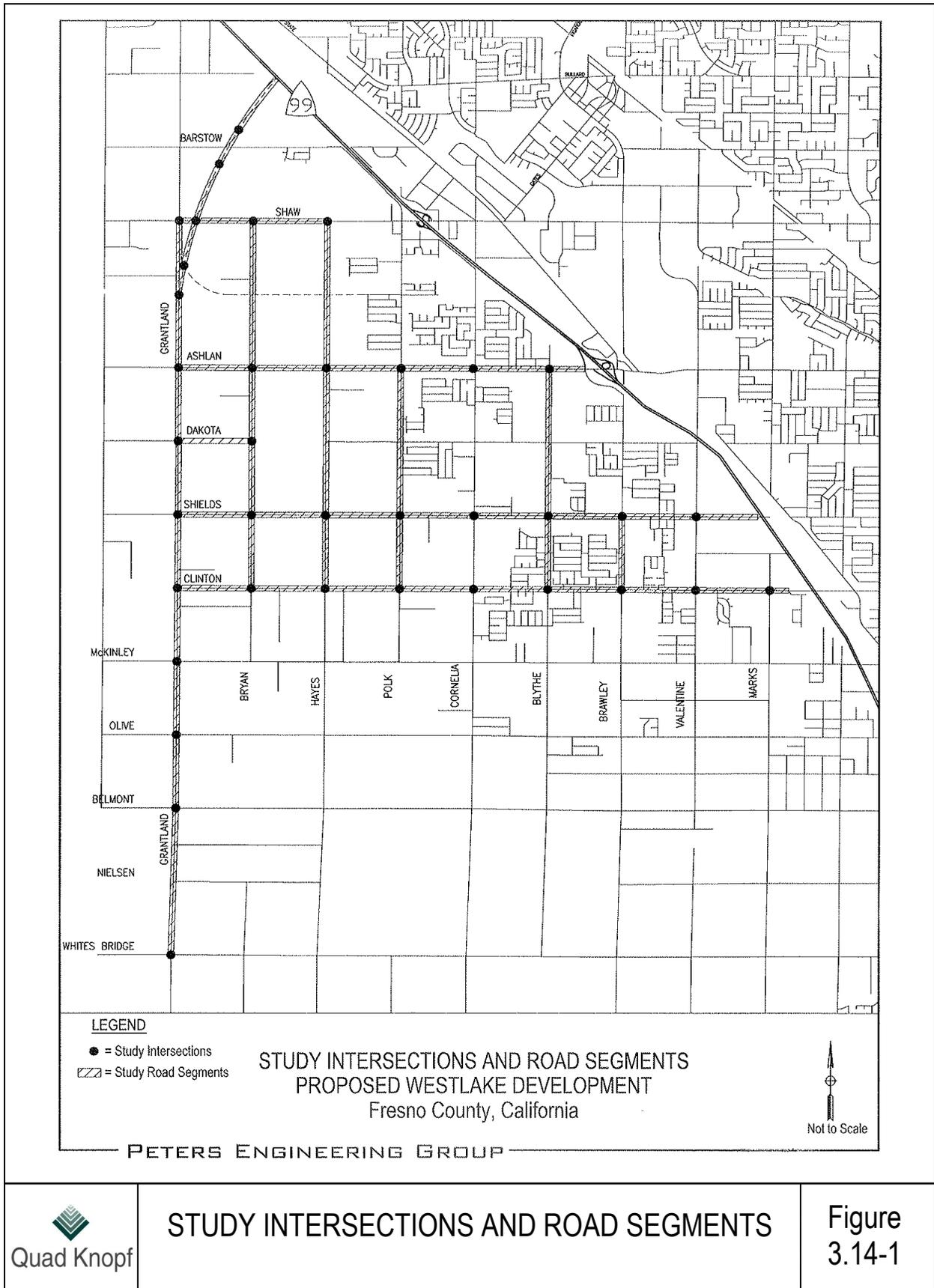
Project Conditions

- Existing Plus Full Project Conditions
- Existing Plus Phase 1 Project Conditions (216 dwelling units built out)
- Year 2016 With Project Phases 1 to 3 Conditions (648 dwelling units built out)
- Year 2021 With Project Conditions (full build out)
- Year 2030 Cumulative With Project Conditions (full build out)

Generally-accepted traffic engineering principles and methods were employed to estimate the amount of traffic expected to be generated by the Project and to analyze the traffic conditions expected to exist in the future (see the TIS – Appendix I for a description of the principles and methodologies).

The Project is expected to create significant impacts or contribute to cumulative impacts as various stages of development occur. The Project will be required to mitigate the significant impacts as described herein.

The operation of the internal project streets has been analyzed based on Project assumptions. The City of Fresno may require additional traffic analyses focused on internal streets and site access intersections when tentative maps and/or site plans are submitted to further subdivide and/or develop particular parcels created by the recording of the Final Map for Vesting Tentative Tract Map No 5915.



STUDY INTERSECTIONS AND ROAD SEGMENTS

**Figure
3.14-1**

Abbreviations used in the Traffic Impact Study that may be used in the text of this EIR:

NB – Northbound	SB - Southbound
EB – Eastbound	WB - Westbound
NBL – Northbound left	LOS – Level of service
NBR – Northbound right	OWS – One-way stop control
SBL – Southbound left	TWS – Two-way stop control
SBR – Southbound right	AWS – All-way stop control
EBL – Eastbound left	HCS – Highway Capacity Manual
EBR – Eastbound right	PHF – Peak Hour Factor
WBL – Westbound left	sec - seconds
WBR – Westbound right	TWLTL – Two-way left-turn lane
SR – State Route	SOI – Sphere of Influence
TGH Trip Generation Handbook	TAZ – Traffic Analysis Zone
ITE – Institute of Transportation Engineers	n/r – Not required
Int – Interchange	U - Undivided
FAR – Floor Area Ratio	DU – dwelling units
sq. ft. – square feet	DNE – Does not exist
COG – Council of Fresno County Governments	
CMUTCD – California Manual on Uniform Traffic Control Devices	

1/1 – Peak hour traffic signal warrant satisfied for condition in which both the major and minor streets have one lane per approach.

2/1 – Peak hour traffic signal warrant satisfied for condition in which the major street has two lanes per approach and the minor street has one lane per approach.

2/2 – Peak hour traffic signal warrant satisfied for condition in which both the major and minor streets have at least two lanes per approach.

3.14.1 REGULATORY AND PHYSICAL SETTING

Regulatory

FEDERAL

Federal Clean Air Act

The Federal Clean Air Act and foreseeable legislation, requires that the Regional Transportation Plan integrate transportation and air quality during the planning process. The 1990 California Clean Air Act (CCAA) Amendment requires the following stipulations in order to receive federal funding:

- Establish a permitting program that achieves no net increase in stationary source emissions;
- Develop a strategy to reduce vehicle trips, use and miles traveled;

- Increase average vehicle ridership to 1.5 persons per vehicle during commute hours;
- Establish Best Available Retrofit Control Technology (BARCT) requirements for all permitted sources; and
- Development of indirect and area source programs.

Failure to meet Federal and State requirements of the CAA may result in the following disciplinary actions:

- Limitations on the use of federal funds for highway construction;
- Cut off of federal grants for construction of sewage treatment plants; and
- Prohibition of development of new stationary sources of air pollution.

STATE

Caltrans

The Caltrans Guide for the Preparation of Traffic Impact Studies, dated December 2002, indicates that Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state facilities (e.g., SR-99).

On State facilities a significant impact is recognized if a proposed project will decrease the LOS below C or if a project will exacerbate an existing intersection operating at LOS D, E, or F by decreasing the LOS at the intersection.

Two comment letters were received from the Department of Transportation in response to the Initial Study/NOP with regard to transportation and circulation. In the first letter (dated January 7, 2008) Caltrans said that a TIS should be performed for the DEIR that analyzes near-term and future traffic impacts from the project; the TIS should analyze impacts from project trip generation along SR 99 between the Herndon and Clinton Avenues interchanges; the TIS should identify a queue analyses for all traffic impacts that potentially impact SR 99; and the TIS needs to identify the project's impacts and calculate its fair share to mitigate for those impacts. The second Caltrans letter (dated January 15, 2008) referenced the TIS scope of work for the proposed Fresno North River Walmart Supercenter and includes the City's Formula to calculate project mitigation requirements. Caltrans' comments were considered in the Traffic Impact Study's analyses.

SB 375

Following the passage of Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006, which specifies that by the year 2020, greenhouse gas (GHG) emissions within the State must be at 1990 levels, Senate Bill 375 (SB 375) – The Sustainable Communities and Climate Protection Act of 2008 was signed into law as the framework for achieving greenhouse gas emissions reductions from land use and transportation planning.

SB 375 includes four primary findings related to the RTP/SCS development process:

- That the ARB develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Fresno COG;
- That the Fresno COG, during the next RTP update is required to prepare an SCS that specifies how the GHG emission reduction target set by ARB will be achieved. IF the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Fresno COG;
- Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Fresno County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target; and
- Requires that Fresno COG conduct the Regional Housing Needs Assessment (RHNA) process consistent with the RTP/SCS process and that the RHNA allocations be consistent with the development pattern in the SCS.

AB 1358 – California Complete Streets Act

On September 30, 2008 Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: “In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking and use of public transit.”

The legislation impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A) and (B):

- (A) Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan; and
- (B) For the purposes of this paragraph, “users of streets, roads, and highways” means bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

REGIONAL

Regional Transportation Plan

The adopted Regional Transportation Plan (RTP) (2011) establishes regional transportation policy for the Fresno County region. The RTP focuses on achieving a coordinated and balanced

multimodal transportation system, while maintaining the integrity of the existing system. The RTP includes projects located throughout Fresno County region for all forms or modes of transportation, including automobiles, transit, nonmotorized (including bicycle), passenger rail, freight and aviation facilities. The RTP reflects a fiscally constrained environment and identifies those projects (considered as Tier 1 projects) that have a secure or approved funding source.

LOCAL

Fresno County General Plan

In accordance with Government Code Sections 65302 (b) and 65303, the County of Fresno has a General Plan Element titled Transportation and Circulation. The General Plan outlines goals and policies that all development projects within the jurisdiction of County of Fresno must adhere to. The Fresno County General Plan has five goals that address streets and highways, transit, transportation systems management, bicycle facilities, rail transportation, and air transportation. The County's General Plan was adopted in October 2000.

City of Fresno Municipal Code

Chapter 13 of the City of Fresno Municipal Code addresses the general provisions for sidewalks, streets, parkways, and underground utilities. Chapter 14 addresses traffic and circulation.

City of Fresno General Plan

The most applicable policies of the City's General Plan with regard to the proposed project and traffic/circulation are as follows:

Public Facilities Element

E-1-b. Policy Review local and regional transportation plans and capital improvement plans to ensure that only projects consistent with this plan are being proposed and funded.

E-1-c. Policy Give the highest priority to street and highway improvements that will not jeopardize or negatively impact neighborhoods and other sensitive land uses (such as residences, hospitals, schools, natural habitats, and open space areas). Additional considerations are as follows:

- *added safety;*
- *air quality;*
- *maintenance of capacity and pavement integrity;*
- *facilitation of multi-modal transportation system; and*
- *increased efficiency.*

E-1-f. Policy Allow a Level of Service "D" (LOS "D") as the acceptable level of traffic congestion on major streets. LOS "D" according to the Caltrans and COFCG accepted LOS criteria, as developed by the Florida Department of

Transportation, means moderate congestion at peak traffic periods; approaching unstable flow with reduced speeds, limited maneuverability, and loss of convenience; average speeds range from 9 to 17 miles per hour on arterials with stopped delays of 40 seconds or less.

E-1-j. Policy Provide areas for pedestrian and other non-motorized travel that enhance the safety, utilization, and efficiency of the street system. Pedestrian travel should be encouraged as a viable mode of movement throughout the metropolitan area by providing safe and convenient pedestrian facilities in new and existing urban areas and particularly within the Central Area and urban core community centers.

E-1-l. Policy All commercial and office development should be linked with pedestrian, bicycle, and transit facilities.

E-1-m. Policy Achieve greater pedestrian accessibility to commercial uses from nearby neighborhoods.

E-1-o. Policy For new single-family residential subdivisions, sidewalks are required on both sides of local residential streets.

- *For new single-family residential subdivisions with private streets, sidewalks shall be located on both sides of all private streets. Design, placement and construction of sidewalks on private streets shall be in accordance with the Standard Specifications and Drawings of the City of Fresno Public Works Department and shall have adequate lighting. Sidewalks shall be separated horizontally and vertically from the adjacent street with continuous curbing, landscape strips or other barrier(s) approved by the Director of the Planning and Development Department for the City of Fresno.*
- *Pedestrian Access Plan alternative. As an alternative to constructing sidewalks on both sides of the private street, the applicant may submit a pedestrian access plan.*

A pedestrian access plan may include methods other than sidewalks adjacent to the curb, but shall include an on-site pedestrian path (sidewalks and/or walks) throughout the subdivision and include connection(s) to the public right-of-way. The pedestrian access plan shall connect all residences to common buildings, facilities, amenities, and other residences, in a manner that minimizes out-of-direction travel, and shall provide access to adjacent schools, parks and other public or private community amenities.

A pedestrian access plan shall be included as an element of a conditional use permit as required for a planned development, and approval shall be contained within the entitlement submitted. The pedestrian access plan

shall demonstrate the safe and effective movement of pedestrians within the subdivision. Detailed drawings of the walk (i.e. surface material, thickness, etc.) shall be provided. Demonstration of safe and effective movement of pedestrians shall include adequate lighting.

Approval of the pedestrian access plan configuration shall be made by the City of Fresno Planning and Development Director. Comments shall be obtained from the City of Fresno Traffic Engineer and/or the City Engineer.

- *Exceptions to new single-family residential subdivision sidewalk requirements for private streets:*

Single-street Subdivisions: Sidewalks are not required on a private street, which is not a through street, having a length of 200 feet or less and provides access to a maximum of 10 lots; all houses in the subdivision must face the single private street. This exception cannot be used as an element of a pedestrian access plan alternative, additionally, it does not apply to a private street intersecting with a private street within a planned development; or

Single loaded streets may eliminate sidewalks on the side opposite the units when it is not needed to provide for logical pedestrian circulation.

- *Design guidelines for walks. All pedestrian walks shall be considered an accessible route, as defined by the California Building Code (CBC), and must be constructed in accordance with Chapter 11A of the CBC and the Americans with Disabilities Act (ADA). Considerations for accessibility include, but are not limited to, width, surface material, slope and detectable warnings.*
- *After the adoption of the 2025 Fresno General Plan, some planned development were approved by the City of Fresno that had either no sidewalk, sidewalk on one side of the private street or sidewalks on both sides of the private street. The City of Fresno recognizes that developers may prepare engineered infrastructure and other design improvement plans with the intent on developing projects as approved.*

As such, in those cases where both a special permit and tentative (or vesting tentative) tract map which propose private street(s) have received final approval by the City of Fresno and all administrative appeal periods for those entitlements have expired, the developer shall be allowed to rely upon those prior approvals with regard to sidewalk requirements subject to the conditions of approval and associated exhibits for purposes of filing a final map. For the purpose of this policy, lots being further subdivided, or shown as outlots to be re-subdivided, shall be considered approved only when both the special permit and the tentative (or vesting tentative)

tract map that further subdivides those the lots or outlots are finally approved by the City of Fresno and all administrative appeal periods have expired.

- E-2-b. Policy Minimize vehicular and vehicle-pedestrian conflicts on major streets and adjacent land uses through use of traffic design and control measures that reduce congestion and increase safety.*
- E-2-d. Policy Require design measures to mitigate noise and safety concerns along major streets such as adequate building setbacks, frontage roads, landscaping and noise barriers, particularly for residential and other noise-sensitive uses.*
- E-2-e. Policy Require the design of local streets to provide efficient circulation and allow convenient access while protecting neighborhoods from the intrusion of through traffic.*
- E-2-f. Policy Require the completion of a comprehensive traffic impact study for all proposed plan amendments of five acres or more in size or in accordance with traffic impact study guidelines (including minimum project size) as may be established by the City of Fresno.*
- E-2-h. Policy Limit the number of driveway access points on all major streets to minimize traffic disruption and protect traffic flows. No development shall be approved if it will adversely affect the flow of traffic on a public street below an acceptable standard to be determined by the Public Works Director and based upon the policies noted herein.*
- E-2-i. Policy Multiple-family residential, commercial, institutional, industrial, and office projects shall be designed such that related traffic will not route through local residential streets.*
- E-3-c. Policy The cost of constructing the major street system should be applied to new development consistent with state and federal laws.*
- E-8-b. Policy Plan and develop the major street network to facilitate efficient direct transit routing that provides one-half mile coverage throughout the metropolitan area. Circuitous streets are more difficult for public transit to efficiently serve than consistently spaced linear or semi-grid patterns for arterial and collector streets.*
- E-8-d. Policy Retail and office buildings shall be located near arterial and major collector streets served by public transit.*
- E-9-cc. Policy Bus bay turnouts and site improvements (including improvements associated with bus stop accessibility for the physically impaired such as curb cuts for wheelchair access) should be required where development occurs along established or proposed transit routes. The costs associated with these*

improvements should be paid by the site developer. Bus bay development standards and stop accessibility standards are contained in the Fresno Area Express Transit Facilities Development Standards document.

E-13-a. Policy Provide bikeways in proximity to major traffic generators such as commercial centers, schools, recreational areas, and major public facilities.

E-13-b. Policy Require major traffic generating uses (major shopping centers, office complexes, public service facilities, et al.) to design on-site parking and circulation areas to facilitate bicycle travel.

E-14-a. Policy Require that development projects adjacent to a designated bikeway provide adequate right-of-way and construct necessary improvements to implement the planned bikeway system. Construction of new major streets or reconstruction of existing major streets shall also provide for the planned bikeway system to the extent feasible. Where inadequate right-of-way is available within established areas alternative bikeway alignments or routes shall be pursued consistent with Policy E-13-d.

West Area Community Plan

W-2-c. Policy Pursue the formation of a comprehensive city-managed funding program in the West Community Plan Area to provide needed public facilities (including, but not limited to streets, sidewalks, sewer and water infrastructure, law enforcement substations, and parks) in the incorporated and unincorporated portions of the plan area.

W-3-a. Policy Designate Grantland Avenue and the Grantland Diagonal between Shields Avenue and its intersection with the right-of-way of the Southern Pacific Railroad tracks as a boulevard area, with a 30-foot landscaped setback required. Planned elements of the city's master trail system may be located partially within this setback.

W-3-b. Policy Provide a 20-foot landscaped setback along all designated arterial streets. Planned elements of the city's master trail system may be located partially within this setback.

W-3-c. Policy Provide a 15-foot landscaped setback, or the setback required by the Fresno Municipal Code, whichever is greater, along all collector streets and along the Gettysburg alignment transportation corridor. Planned elements of the city's master trail system may be located partially within this setback.

City of Fresno Traffic Signal Mitigation Impact Fee and Fresno Major Street Impact Fee

Funding for Transportation Projects

The City of Fresno TSMI fee and the Fresno Major Street Impact (FMSI) fee program provide funds for construction of specified traffic signals and major street segments. Projects within the City of Fresno mitigate their fair share of cumulative impacts by paying into the fee program and/or constructing the improvements and receiving credits and reimbursements for the portion of construction that is included in the fee program. As a general matter, under the TSMI and FMSI fee programs, a developer is required to construct street or traffic signal improvements, subject to fee credits and reimbursements, when the developer's project triggers the need for the facility, or that causes the substandard LOS. Where intersections are located partially within the City of Fresno SOI, the TSMI fee provides funding only for the percentage of the intersection located in the SOI; therefore, at such locations the improvement will not be fully implemented through the TSMI fee.

The following study intersections are included in the TSMI fee to fund future signalization:

- Grantland and Belmont Avenues (25 percent funding);
- Grantland and Olive Avenues (50 percent funding);
- Grantland and McKinley Avenues (50 percent funding with dual lefts);
- Grantland and Clinton Avenues (50 percent funding);
- Bryan and Clinton Avenues (100 percent funding);
- Hayes and Clinton Avenues (100 percent funding);
- Polk and Clinton Avenues (100 percent funding);
- Cornelia and Clinton Avenues (100 percent funding);
- Blythe and Clinton Avenues (100 percent funding);
- Brawley and Clinton Avenues (100 percent funding, already signalized);
- Valentine and Clinton Avenues (100 percent funding);
- Grantland and Shields Avenues (75 percent funding with dual lefts);
- Bryan and Shields Avenues (100 percent funding);
- Hayes and Shields Avenues (100 percent funding);
- Polk and Shields Avenues (100 percent funding with dual lefts);
- Cornelia and Shields Avenues (100 percent funding);
- Blythe and Shields Avenues (100 percent funding with dual lefts);
- Brawley and Shields Avenues (100 percent funding);
- Valentine and Shields Avenues (100 percent funding);
- SR 99 SB ramps / Shields Avenue / Parkway Drive (100 percent funding);
- Grantland and Dakota Avenues (100 percent funding);
- Bryan and Dakota Avenues (100 percent funding);
- Grantland and Ashlan Avenues (100 percent funding with dual lefts);
- Bryan and Ashlan Avenues (100 percent funding with dual lefts);
- Hayes and Ashlan Avenues (100 percent funding with dual lefts);
- Polk and Ashlan Avenues (100 percent funding with dual lefts);
- Cornelia and Ashlan Avenues (100 percent funding with dual lefts, already signalized);
- Blythe and Ashlan Avenues (100 percent funding);
- Grantland Avenue and Westlake Access (Gettysburg Avenue) (100 percent funding);

- Grantland and Shaw Avenues (100 percent funding with dual lefts);
- Veterans Boulevard and Shaw Avenue (100 percent funding with dual lefts);
- Bryan and Shaw Avenues (100 percent funding);
- Hayes and Shaw Avenues (100 percent funding with dual lefts);
- Veterans Boulevard and Barstow Avenue (100 percent funding with dual lefts);
- Veterans Boulevard and Bryan Avenue (100 percent funding with dual lefts); and
- Veterans Boulevard and Gettysburg Avenue (100 percent funding with dual lefts).

The FMSI fee provides funding for construction of six through lanes on expressways, four through lanes on arterial streets, and two through lanes plus a two-way left-turn lane on collector streets. The FMSI also includes construction of Veterans Boulevard from Grantland Avenue to Shaw Avenue.

Other funding sources have been established for transportation improvement projects within the study area. The 2006 Measure C Extension Plan includes a half-cent sales tax throughout Fresno County for a 20-year extension period to fund freeway extensions, improve roads, construct bike lanes and trails, and enhance public safety with respect to transportation infrastructure. Funding for the Regional Transportation Program Extension Projects comes from three sources:

- 50 percent from Measure C;
- 20 percent from the State Transportation Improvement Program (STIP); and
- 30 percent from the Regional Transportation Impact Fee Program (RTMF).

The only project included in the Measure C Extension within the Project study area is a Tier 1 Urban Project to construct Veterans Boulevard. That project will construct Veterans Boulevard, including at railroad grade separation and freeway interchange, from Herndon Avenue to Shaw Avenue. The portion of Veterans Boulevard from Shaw Avenue to Barstow Avenue is funded for four lanes.

The City of Fresno requires projects to pay the TSMI, FMSI and RTMF fees.

Physical

IMPACT SIGNIFICANCE CRITERIA

Level of Service

The Transportation Research Board *Highway Capacity Manual*, 2010, (HCM2010) defines level of service (LOS) as, “A quantitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler’s perspective and LOS F the worst.”

Automobile mode LOS characteristics for both unsignalized and signalized intersections are presented in Tables 3.14-1 and 3.14-2. Automobile mode LOS characteristics for uninterrupted flow two-lane highways are presented in Table 3.14-3.

**Table 3.14-1
Level of Service Characteristics for Unsignalized Intersections**

Level of Service	Average Vehicle Delay (seconds)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Reference: *Highway Capacity Manual*, Transportation Research Board

**Table 3.14-2
Level of Service Characteristics for Signalized Intersections**

Level of Service	Description	Average Vehicle Delay (seconds)
A	Volume-to-capacity ratio is low. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is low. Progression is highly favorable or the cycle length is very short.	>10-20
C	Volume-to-capacity ratio is no greater than 1.0. Progression is favorable or cycle length is moderate.	>20-35
D	Volume-to-capacity ratio is high but no greater than 1.0. Progression is ineffective or cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35-55
E	Volume-to-capacity ratio is high but no greater than 1.0. Progression is unfavorable and cycle length is long. Individual cycle failures are frequent.	>55-80
F	Volume-to-capacity ratio is greater than 1.0. Progression is very poor and cycle length is long. Most cycles fail to clear the queue.	>80

Reference: *Highway Capacity Manual*, Transportation Research Board, 2010

**Table 3.14-3
Level of Service Characteristics for Roadways**

Level of Service	Description
A	High operating speeds with a small amount of platooning.
B	Speed reductions are present and platooning is noticeable.
C	Most vehicles traveling in platoons with speeds noticeably curtailed.
D	Platooning increases significantly.
E	Demand approaching capacity. Speeds seriously curtailed.
F	Demand exceeds capacity and heavy congestion exists.

Reference: *Highway Capacity Manual*, Transportation Research Board, 2010

The City of Fresno requires that LOS D or better be maintained to comply with the *2025 General Plan, Transportation/Streets and Highways, Policy E-1-f*. The City of Fresno recognizes a traffic impact if a proposed project will decrease the LOS below D at an intersection or road segment. The City of Fresno also recognizes a traffic impact if a project will exacerbate an intersection already operating at a substandard LOS by increasing the average delay at the intersection by 5.0 seconds or more, or by causing the LOS to drop from E to F. Finally, the City of Fresno recognizes a traffic impact if a project will exacerbate a road segment already operating at substandard LOS by increasing the volume-to-capacity ratio (v/c) of the road segment by 0.15 or more, or by causing the LOS to drop from E to F.

The City of Fresno has adopted a finding of overriding consideration allowing LOS E or F at constrained locations. Table VB-4, Streets With Constrained Capacity, presented in Chapter V of The City of Fresno *Draft Master Environmental Impact Report for the 2025 Fresno General Plan, EIR No. 10130, SCH Log No. 2001071097* (Draft MEIR) provides a description of the constrained locations, including acceptance of the following levels of service:

- LOS F on Ashlan Avenue between Blythe Avenue and Parkway Drive; and
- LOS F on Veterans Boulevard from Barstow Avenue to SR 99.

Although the City adopted a finding of overriding considerations allowing for LOS E or F at certain constrained road segments, the proposed project is not relying on the findings of the Draft MEIR. General Plan Policy E-1-f calls for a Level of Service of D; therefore, this traffic impact study will use LOS D as the threshold of significance for intersections within the City of Fresno.

The Caltrans *Guide for the Preparation of Traffic Impact Studies* dated December 2002 indicates that Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D. On State facilities a significant impact is recognized if a proposed project will decrease the LOS below C or if a project will exacerbate an existing intersection operating at LOS D, E, or F by decreasing the LOS at the intersection.

The County of Fresno requires that LOS C or better be maintained, except within the spheres of influence of the City of Fresno and the City of Clovis where LOS D is acceptable. All of the study intersections are within the City of Fresno sphere of influence except the intersection of

Grantland and Whitesbridge Avenues, which is under Caltrans jurisdiction. All of the study road segments are within the sphere of influence of the City of Fresno except Grantland Avenue between Belmont and Whitesbridge Avenues, which is under County of Fresno jurisdiction.

The LOS accepted in the 2025 Fresno General Plan is identified in parentheses in Tables 3.14-4 and 3.14-5. The expected opening-day jurisdiction is listed in the tables with the minimum required LOS. It is anticipated that all of the County study intersections will eventually fall under the jurisdiction of the City of Fresno.

Intersection Queuing Criteria

The *City of Fresno Traffic Impact Study Report Guidelines* dated February 2, 2009 require a queuing analysis of the study intersections and recommendations for queues that are projected to exceed the available storage capacity. For turn lanes, which typically include a bay taper in addition to the reported storage capacity, a storage deficiency will be identified if the 95th-percentile queue length exceeds the storage capacity by at least 25 feet (one additional car length).

Transit, Bicycle, and Pedestrian Facilities Criteria

A significant impact is determined if a proposed project would disrupt or impede existing or planned transit, bicycle, or pedestrian facilities. A significant impact is also determined if a proposed project does not connect to adjacent existing facilities or does not implement approved plans for these facilities. Finally, a significant impact is created if a project does not create a school route as described in the latest edition of the California Department of Transportation *California Manual on Uniform Traffic Control Devices for Streets and Highways* (CMUTCD).

TRAFFIC ANALYSIS METHODOLOGY

Intersection Analysis Methodology

The levels of service and 95th-percentile queues at the study intersections were determined using the computer program Synchro 8, which is based on the HCM procedures for calculating levels of service.

For signalized intersections and all-way-stop-controlled intersections, the overall intersection LOS and the average delay per vehicle are presented. For one-way and two-way stop-controlled intersections an overall intersection LOS is not defined in the HCM. Therefore, for one-way and two-way stop-controlled intersections the LOS and average delay per vehicle for the movement with the greatest delay is reported.

Roundabouts at the intersection of Shields Avenue / Parkway Drive and the State Route 99 southbound ramps were analyzed using the computer program Sidra Intersection 5.1 (standard model), which allows for more complicated intersection geometry. Internal Project roundabouts and other West Area planned roundabouts that require a more generalized and typical configuration were analyzed using Synchro 8, which incorporates the HCM2010 procedures for roundabout analyses.

**Table 3.14-4
Minimum Acceptable Intersection Levels of Service**

Location	Opening Day Jurisdiction	Target LOS
Grantland / Whitesbridge	Caltrans	C
Grantland / Belmont	County of Fresno	D
Grantland / Olive	County of Fresno	D
Grantland / McKinley	County of Fresno	D
Grantland / Clinton	County of Fresno	D
Bryan / Clinton	County of Fresno	D
Hayes / Clinton	County of Fresno	D
Polk / Clinton	City of Fresno/County of Fresno	D
Cornelia / Clinton	City of Fresno/County of Fresno	D
Blythe / Clinton	City of Fresno	D
Brawley / Clinton	City of Fresno	D
Valentine / Clinton	City of Fresno/County of Fresno	D
Marks / Clinton	City of Fresno	D
Grantland / Shields	County of Fresno	D
Bryan / Shields	County of Fresno	D
Hayes / Shields	County of Fresno	D
Polk / Shields	County of Fresno	D
Cornelia / Shields	City of Fresno/County of Fresno	D
Blythe / Shields	County of Fresno	D
Brawley / Shields	City of Fresno	D
Valentine / Shields	City of Fresno	D
SR 99 SB ramps / Shields / Parkway	Caltrans	C
Westlake Loop / Southern Access	City of Fresno	D
Westlake Loop / Dakota (western)	City of Fresno	D
Westlake Loop / Dakota (eastern)	City of Fresno	D
Grantland / Dakota	County of Fresno	D
Bryan / Dakota	County of Fresno	D
Westlake Loop / Ashlan (western)	City of Fresno	D
Westlake Loop / Ashlan (eastern)	City of Fresno	D
Grantland / Ashlan	City of Fresno/County of Fresno	D
Bryan / Ashlan	City of Fresno/County of Fresno	D
Hayes / Ashlan	City of Fresno/County of Fresno	D
Polk / Ashlan	City of Fresno	D
Cornelia / Ashlan	City of Fresno	D
Blythe / Ashlan	City of Fresno	D
Westlake Loop / Gettysburg Access	City of Fresno	D
Grantland / Gettysburg (South)	City of Fresno	D
Grantland / Shaw	City of Fresno/County of Fresno	D
Veterans / Shaw	City of Fresno	D
Bryan / Shaw	City of Fresno/County of Fresno	D
Hayes / Shaw	City of Fresno/County of Fresno	D
Veterans / Barstow	City of Fresno	D
Veterans / Bryan	City of Fresno	D
Veterans / Gettysburg	City of Fresno	D

Source: Peters Engineering, 2011

**Table 3.14-5
Minimum Acceptable Road Segment Levels of Service**

Location	Opening Day Jurisdiction	Target LOS
Grantland Avenue		
Shaw to Gettysburg	County of Fresno	D
Gettysburg to Ashlan	City of Fresno	D
Ashlan to Dakota	County of Fresno	D
Dakota to Shields	County of Fresno	D
Shields to Clinton	County of Fresno	D
Clinton to McKinley	County of Fresno	D
McKinley to Olive	County of Fresno	D
Olive to Belmont	County of Fresno	D
Belmont to Whitesbridge	County of Fresno	C
Bryan Avenue		
Shaw to Gettysburg	City of Fresno/County of Fresno	D
Gettysburg to Ashlan	City of Fresno	D
Ashlan to Dakota	County of Fresno	D
Dakota to Shields	County of Fresno	D
Shields to Clinton	County of Fresno	D
Hayes Avenue		
Shaw to Gettysburg	City of Fresno/County of Fresno	D
Gettysburg to Ashlan	City of Fresno	D
Ashlan to Dakota	County of Fresno	D
Dakota to Shields	City of Fresno/County of Fresno	D
Shields to Clinton	County of Fresno	D
Polk Avenue		
Ashlan to Dakota	City of Fresno/County of Fresno	D
Dakota to Shields	City of Fresno/County of Fresno	D
Shields to Clinton	City of Fresno/County of Fresno	D
Blythe Avenue		
Ashlan to Dakota	City of Fresno/County of Fresno	D
Dakota to Shields	County of Fresno (some City)	D
Shields to Clinton	City of Fresno (some County)	D
Brawley Avenue		
Shields to Clinton	City of Fresno	D
Shaw Avenue		
Grantland to Veterans	City of Fresno/County of Fresno	D
Veterans to Bryan	City of Fresno	D
Bryan to Hayes	City of Fresno/County of Fresno	D
Ashlan Avenue		
Grantland to Bryan	City of Fresno	D
Bryan to Hayes	County of Fresno	D
Hayes to Polk	City of Fresno/County of Fresno	D
Polk to Cornelia	City of Fresno	D
Cornelia to Blythe	City of Fresno	D
Blythe to Parkway	City of Fresno	D (F)
Dakota Avenue		
Grantland to Bryan	County of Fresno	D
Shields Avenue		
Grantland to Bryan	County of Fresno	D
Bryan to Hayes	County of Fresno	D
Hayes to Polk	County of Fresno	D
Polk to Cornelia	City of Fresno/County of Fresno	D

Location	Opening Day Jurisdiction	Target LOS
Cornelia to Blythe	County of Fresno	D
Blythe to Brawley	City of Fresno/County of Fresno	D
Brawley to Valentine	City of Fresno	D
Valentine to Parkway	City of Fresno	D
Clinton Avenue		
Grantland to Bryan	County of Fresno	D
Bryan to Hayes	County of Fresno	D
Hayes to Polk	County of Fresno	D
Polk to Cornelia	City of Fresno/County of Fresno	D
Cornelia to Blythe	City of Fresno	D
Blythe to Brawley	City of Fresno	D
Brawley to Valentine	City of Fresno/County of Fresno	D
Valentine to Marks	City of Fresno	D
Marks to Vassar	City of Fresno	D
Veterans Boulevard		
Gettysburg S. to Gettysburg N.	City of Fresno	D
Gettysburg to Shaw	City of Fresno	D
Shaw to Barstow	City of Fresno	D
Barstow to Bryan	City of Fresno	D (F)
Bryan to SR 99	City of Fresno	D (F)

Source: Peters Engineering, 2011

Although peak-hour traffic volumes are typically utilized in the operational analysis of intersections, the HCM actually utilizes the peak 15-minute period as the basis for operational analyses by incorporating the peak hour factor (PHF) into the analyses. PHFs for the existing-conditions, existing-plus-Project, and 2016 conditions analyses were determined based on the existing traffic volumes. The HCM suggests that a PHF of 0.92 in urban areas and 0.88 in rural areas may be used in the absence of field data. For purposes of the 2021 and 2030 analysis scenarios performed for this study, in which field data is not available and traffic volumes are projected, a PHF of 0.92 is used except near schools, where a lesser peak hour factor is typically used.

The analysis of signalized intersections includes certain traffic signal timing assumptions provided by the City Traffic Engineer in the early stages of this study, including actuated conditions, minimum initial green time of 4.0 seconds per phase, a minimum split of 12.0 seconds per phase, a minimum cycle length of 60 seconds, a minimum walk time of 7.0 seconds, a minimum flashing don't walk time of 20 seconds, a minimum of 10 pedestrian calls per hour on each crosswalk, and an all-red time of 1.0 second. The traffic signals were not assumed to be coordinated. Signal timings were optimized for all no-Project scenarios, and the same signal timing was maintained for the Project scenarios. Protected left turn phasing is the standard for new traffic signal installations in the City of Fresno; therefore, all recommendations for new traffic signals include dedicated left-turn lanes with protected left-turn phasing unless otherwise noted.

Queue lengths are reported for signalized intersections to reveal possible deficiencies that would not be apparent based only on LOS results. For example, if a left-turn lane is not long enough to contain the queues, then the vehicles waiting to turn left will back up into the through traffic lanes and potentially block through traffic while the through traffic signal phase is being served

with green time. This type of deficiency would not be apparent based on LOS calculations alone for signalized intersections. On the other hand, at stop-sign-controlled intersections a queuing analysis would not reveal any additional deficiencies that are not already revealed in the LOS analysis. Therefore, queuing analyses are not presented for stop-sign controlled intersections. At the request of City staff, 95th-percentile queues are presented for roundabout analyses.

Traffic Signal Warrants

The California Department of Transportation *California Manual on Uniform Traffic Control Devices for Streets and Highways* (CMUTCD) presents various warrant analyses to assist in evaluating the need for traffic signals at an intersection. Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. If one or more of the signal warrants are met, signalization of the intersection may be appropriate. However, a signal likely should not be installed if none or few of the warrants are met since the installation of signals may increase delays on the previously uncontrolled major street and may contribute to an increase in accidents.

The potential need for a traffic signal was evaluated at unsignalized intersections operating at substandard levels of service. Since the analyses presented herein are based on peak hour traffic volumes, Figure 4C-4, Warrant 3, Peak Hour (70 percent Factor) as presented in the CMUTCD was utilized to evaluate the possibility that traffic signals may be warranted at study intersections not currently signalized. Traffic signals are not considered to be a feasible mitigation if traffic signal warrants are not met. For cases in which peak hour traffic signal warrants are satisfied, traffic signals are not considered to be the default mitigation. Since installation of traffic signals typically includes construction of additional lanes or widening of the intersection, the development recommendations for mitigations includes consideration of widening the intersection to add capacity while maintaining stop sign control. If the addition of lanes results in acceptable levels of service then the installation of traffic signals is considered to be over-mitigation and is not recommended even if peak-hour traffic signal warrants are satisfied.

Road Segment Analysis Methodology

Road segment analyses were based on the Florida Department of Transportation (FDOT) Generalized Q/LOS Tables. The Florida road segment tables were developed based on procedures outlined in the HCM and are specified in the *City of Fresno Traffic Impact Study Report Guidelines* dated February 2, 2009 as an acceptable method for analysis of road segments. The West Area plan was developed utilizing the Florida tables.

The Florida tables present LOS criteria based on the type of roadway being analyzed and the regional setting (i.e., urban areas or transitioning areas). The appropriate Florida table is dependent upon the setting based on engineering judgment.

Generalized Peak Hour Two-Way Volumes for Florida's Areas Transitioning Into Urbanized Areas or Areas Over 5,000 Not In Urbanized Areas (Florida Table 5 considering Non-State Roadways, Major City/County Roadways) was utilized in the analysis for road segments in areas that are in various stages of development, considered to be a transitory state between rural and

urban settings. According to the 2009 FDOT Quality / Level of Service Handbook, transitioning areas are “fringe” areas that exhibit characteristics between rural and urbanized/urban. Transitioning areas are intended to include areas that, based on their growth characteristics, are anticipated to become urbanized or urban in the next 20 years. A majority of the west Fresno sphere of influence currently would be considered to fall into this category. The table is included in the TIS Appendices. Table 3.14-6 presents the specific volume thresholds used in the analyses.

**Table 3.14-6
Volume Thresholds for Transitioning Roadway Levels of Service**

Lanes	Configuration	A	B	C	D	E	F
2	Undivided	-	-	<819	820 – 1,197	1,198 – 1,278	>1,278
2	Undivided without left- turn lanes	-	-	<655	656 – 958	959 – 1,022	>1,022
2	Divided	-	-	<860	861 – 1,257	1,258 – 1,342	>1,342
4	Divided	-	-	<1,980	1,981 – 2,619	2,620 – 2,772	>2,772
4	Divided with right-turn lanes	-	-	<2,079	2,080 – 2,749	2,750 – 2,910	>2,910
6	Divided with right-turn lanes	-	-	<3,269	3,270 – 4,158	4,159 – 4,384	>4,384

Reference: Florida Department of Transportation Table 5, Generalized Peak Hour Two-Way Volumes for Florida’s Areas Transitioning Into Urbanized Areas or Areas Over 5,000 Not In Urbanized Areas (Non-State Roadways, Class II Major City/County Roadways)

The configuration includes left-turn lanes and no right-turn lanes unless otherwise noted.

Table 4, Generalized Peak Hour Two-Way Volumes for Florida’s Urbanized Areas (Non-State Roadways, Major City/County Roadways) was utilized in the analysis for road segments in an urban setting. The table is included in the TIS Appendices. Table 3.14-7 presents the specific volume thresholds used in the analyses.

**Table 3.14-7
Volume Thresholds for Urban Roadway Levels of Service**

Lanes	Configuration	A	B	C	D	E	F
2	Undivided	-	-	<918	919 – 1,332	1,333 – 1,413	>1,413
2	Undivided without left-turn lanes	-	-	<734	735 – 1,066	1,067 – 1,130	>1,130
2	Divided	-	-	<964	965 – 1,399	1,400 – 1,484	>1,484
4	Divided	-	-	<2,178	2,179 – 2,898	2,899 – 3,060	>3,060
4	Divided with right-turn lanes	-	-	<2,286	2,287 – 3,042	3,043 – 3,213	>3,213
6	Divided with right-turn lanes	-	-	<3,581	3,582 – 4,611	4,612 – 4,866	>4,866

Reference: Florida Department of Transportation Table 4, Generalized Peak Hour Two-Way Volumes for Florida’s Urbanized Areas (Class II Non-State Roadways, Major City/County Roadways)

The configuration includes left-turn lanes and no right-turn lanes unless otherwise noted.

EXISTING CONDITIONS

Existing Roadway Network

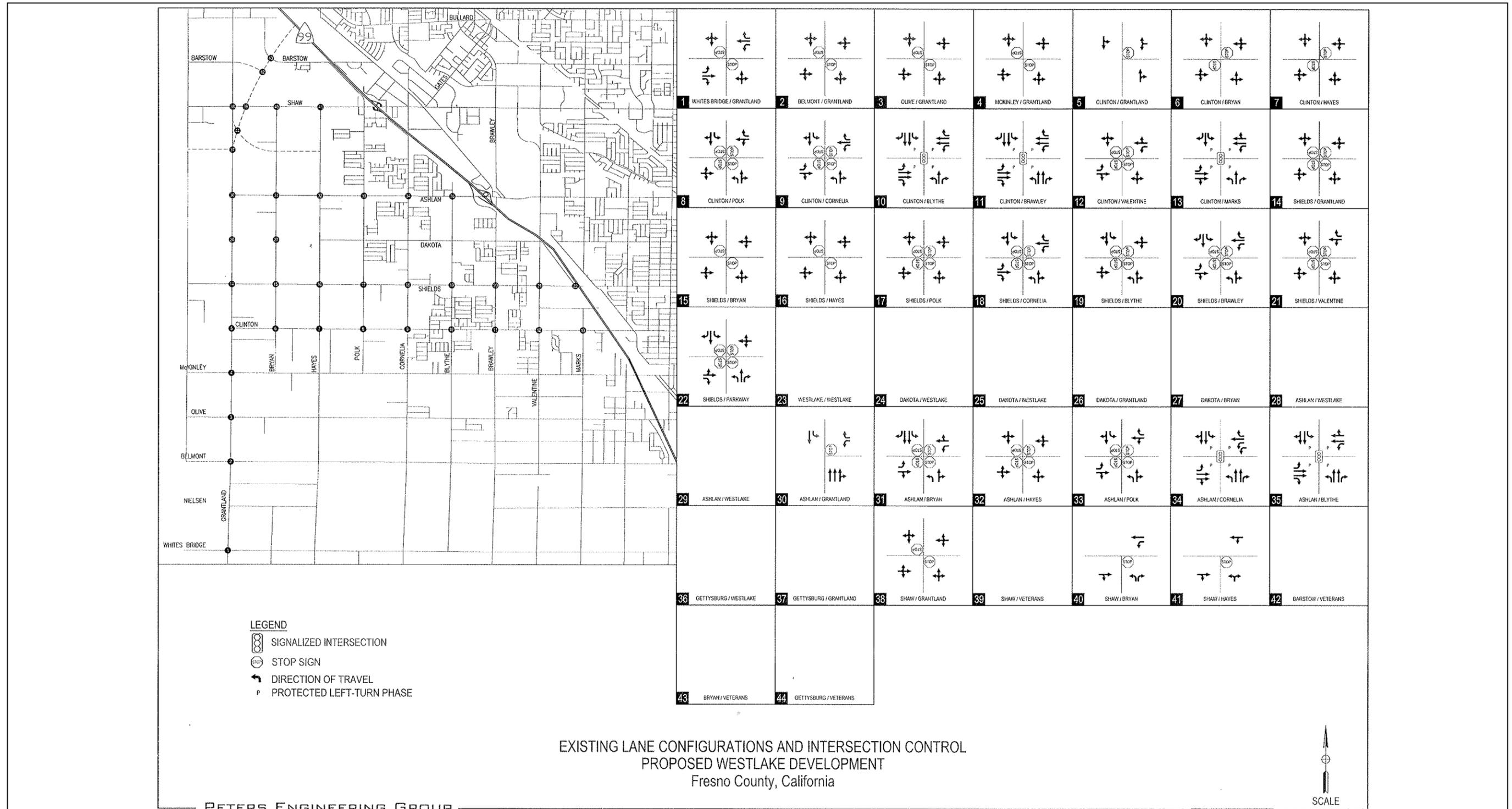
The proposed project study area includes 55 intersections and 58 road segments. The proposed project location, study intersections, and study road segments are illustrated in Figure 3.14-1. The existing lane configurations and intersection control at the study intersections are illustrated in Figure 3.14-2. The major roadways in the study area are described below.

Grantland Avenue is a north-south roadway designated as a Super Arterial in the 2025 Fresno General Plan between Gettysburg and Shields Avenues. Grantland Avenue provides access to SR 99 and areas of Fresno east of SR 99 via Herndon Avenue. North of Gettysburg Avenue it is designated as a collector. Between Shields and Belmont Avenues it is designated as an Arterial. Grantland Avenue south of Belmont Avenue is not within the City of Fresno Sphere of Influence and is designated as an Arterial in the Fresno County General Plan. Within the study area, the roadway is currently a two-lane undivided country road between Whitesbridge and Ashlan Avenues and a two-lane divided road between Ashlan and Shaw Avenues. Where Grantland Avenue is a two-lane country road, the lane widths are approximately 10 to 12 feet with four to 10-foot-wide unpaved shoulders. Where Grantland Avenue is a two-lane divided road, the lane widths are approximately 12 feet with eight-foot-wide paved shoulders. Speed limits are typically 55 miles per hour with a 45-mile-per-hour section between Clinton and Shields Avenues. Pavement conditions are generally good.

Bryan Avenue is a north-south roadway designated as a Collector in the 2025 Fresno General Plan. Within the study area, the roadway is currently a two-lane undivided country road. The lane widths are approximately 10 to 12 feet with four-foot-wide unpaved shoulders. The speed limit is 55 miles per hour. Pavement conditions are generally good.

Hayes Avenue is a north-south roadway designated as a Collector in the 2025 Fresno General Plan. Within the study area, the roadway is currently a two-lane undivided country road between Clinton and Dayton Avenues, Dakota and Ashlan Avenues, and Santa Ana and Shaw Avenues. It is a three-lane undivided collector between Dayton and Dakota Avenues and between Ashlan and Santa Ana Avenues. Where Hayes Avenue is a two-lane country road, the lane widths are approximately 11 feet with zero to 10-foot-wide unpaved shoulders. Where Hayes Avenue is a three-lane undivided road, the lane widths are approximately 12 to 23 feet with five-foot-wide bike lanes. Speed limits are typically 55 miles per hour with a 45-mile-per-hour section between Ashlan and Shaw Avenues. Pavement conditions are generally good.

Polk Avenue is a north-south roadway designated as an Arterial in the 2025 Fresno General Plan. Between Ashlan and Dakota Avenues it is generally a two-lane undivided country road except adjacent to Tract 4473 where the eastern side is developed with curb, gutter, and sidewalk, the road has a two-way left-turn lane, and a portion of the median has been constructed to define the southbound left-turn lane at Dakota Avenue. Between Dakota and Shields Avenues the roadway transitions from a two-lane undivided country road at the south to a three- and four-lane divided arterial adjacent to Tracts 4385 and 5316. Between Shields and Clinton Avenues the roadway transitions from a two-lane undivided country road at the north to a three-lane divided arterial adjacent to Tract 5300. The speed limit is 45 miles per hour. Pavement conditions are generally good.



EXISTING LANE CONFIGURATIONS AND INTERSECTION CONTROL

**Figure
3.14-2**

Blythe Avenue is a north-south roadway designated as an Arterial in the 2025 Fresno General Plan. Within the study area, the roadway is currently a two-lane divided road between Clinton and Shields Avenues and a two-lane undivided country road between Shields and Ashlan Avenues. Where Blythe Avenue is a two-lane divided road, the lane widths are approximately 12 to 30 feet with no shoulders. Where Blythe Avenue is a two-lane undivided country road, the lane widths are approximately 11 feet with six-foot-wide unpaved shoulders. The speed limit is 40 miles per hour. Pavement conditions are generally fair.

Brawley Avenue is a north-south roadway designated as a Collector in the 2025 Fresno General Plan. Within the study area, the roadway is currently a four-lane undivided road that transitions into a two-lane undivided collector between Clinton and Shields Avenues. Where Blythe Avenue is a four-lane divided collector, the lane widths are approximately 12 to 16 feet with a 12-foot-wide two-way-left-turn lane and five-foot-wide bike lanes. Where Blythe Avenue is a two-lane undivided collector, the lane widths are approximately 24 to 26 feet with a 12-foot-wide two-way-left turn lane and five-foot-wide bike lanes. The speed limit is 45 miles per hour. Pavement conditions are generally good.

Shaw Avenue is an east-west roadway designated as an Arterial in the 2025 Fresno General Plan. Shaw Avenue provides access to SR 99 and areas of Fresno east of SR 99. Within the study area, the roadway is currently a two-lane undivided country road between Grantland and Hayes Avenues with lane widths of approximately 14 feet and six-foot-wide paved shoulders. The speed limit is 55 miles per hour. Pavement conditions are generally good.

Ashlan Avenue is an east-west roadway designated as an Arterial in the 2025 Fresno General Plan. Ashlan Avenue provides access to SR 99 and areas of Fresno east of SR 99. Within the study area, the roadway is currently a two-lane undivided country road between Grantland and Cornelia Avenues and a three- to four-lane divided road between Cornelia and Parkway. Where Ashlan Avenue is a two-lane undivided country road, the lane widths are approximately 11 to 14 feet with 10-foot-wide unpaved shoulders. Where Ashlan Avenue is a three- or four-lane divided Arterial, the lane widths are approximately 12 to 20 feet with five-foot-wide bike lanes between Blythe and Parkway Avenues. The speed limits are 55 miles per hour between Grantland and Polk Avenues, 45 miles per hour between Polk and Blythe Avenues, and 40 miles per hour between Blythe and Parkway Avenues. Pavement conditions are generally good.

Shields Avenue is an east-west roadway designated as an Arterial in the 2025 Fresno General Plan. Shields Avenue has access to the southbound lanes of SR 99, but does not have access to the northbound lanes nor to the east side of the freeway. Within the study area, the roadway is currently a two-lane undivided country road with lane widths ranging from 12 to 18 feet with zero to 10-foot-wide unpaved shoulders. The speed limits are 50 miles per hour between Grantland and Blythe Avenues and 45 miles per hour between Blythe and Parkway Avenues. Pavement conditions range from good to poor.

Clinton Avenue is an east-west roadway designated as a Collector in the 2025 Fresno General Plan. Clinton Avenue provides access to SR 99 and areas of Fresno east of SR 99. Within the study area, the roadway is currently a two-lane undivided country road between Grantland and Cornelia Avenues and between Brawley and Marks Avenues, and a four-lane undivided road

between Cornelia and Brawley Avenues. Where Clinton Avenue is a two-lane undivided country road, the lane widths are approximately 10 to 16 feet with eight to 20-foot-wide unpaved shoulders. Where Clinton Avenue is a four-lane road, the lane widths are approximately 12 to 28 feet with five-foot-wide bike lanes. The speed limits are 35 miles per hour between Grantland and Cornelia Avenues and 45 miles per hour between Cornelia and Marks Avenues. Pavement conditions range from good to poor.

State Route 99 is a freeway that varies between four- and six lanes through Fresno. The eight-mile stretch of SR 99 that bounds the west area of Fresno offers the primary connection to downtown Fresno but also separates the west area from the remainder of Fresno to the east.

State Route 180 is a four-lane freeway that transitions to a two-lane highway near Brawley Avenue west of the recently-constructed Marks Avenue interchange.

Union Pacific Railroad is a railway that runs parallel to and east of the SR 99 freeway. East of the study area, at-grade railroad crossings are located on Herndon Avenue, Shaw Avenue, McKinley Avenue, and Olive Avenue. All of these at-grade crossings are equipped with flashing lights, crossbucks, automatic gates, and medians (with the exception of Olive Avenue which does not have a physical medial). Grade-separated crossings (bridges) are located on Ashlan Avenue, Clinton Avenue, Belmont Avenue, and SR 180. A future grade separation will exist after Veterans Boulevard is constructed.

Existing Transit Service

Fresno Area Express (FAX) provides bus service in the Fresno area. Bus service is not currently provided to the proposed project site. The nearest bus route (Route 9) does not travel west of Polk Avenue.

Existing Bicycle and Pedestrian Facilities

The 2010 City of Fresno Bicycle, Pedestrian and Trails Master Plan classifies bicycle facilities as follows:

- Class I – Off-Street Path: Dedicated and paved pathway right-of-way separated from vehicle traffic;
- Class II – On-Street Lanes: Bike facilities share street and include pavement markings and signage; and
- Class III – On-Street Route: Bike facilities share street and include signage only.

In general, bicycle and pedestrian facilities do not currently exist in the vicinity of the Project site, with the exception of limited sidewalks and Class II bike lanes that have been constructed along the frontage of the developed portions of the Central Unified School District Koligian Education Center. Specifically, these facilities have been constructed at the following locations:

- East side of Grantland Avenue north of Ashlan Avenue;
- North side of Ashlan Avenue between Bryan and Grantland Avenues;
- West side of Bryan Avenue north of Ashlan Avenue; and
- South side of Gettysburg Avenue west of Bryan Avenue.

Existing Traffic Volumes, Intersection LOS, Signal Warrant Analyses and Queuing Conditions

Existing Traffic Volumes

Existing traffic volumes were determined by performing manual turning movement counts at each of the study intersections. The traffic count data sheets are attached in Appendix B of the TIS. Existing peak hour turning movement volumes at the study intersections are presented in Figure 5 of the TIS, Existing Peak Hour Traffic Volumes. Since this study was originated in 2007, additional traffic counts were performed in 2011 in the vicinity of the new educational complex constructed southeast of the intersection of Ashlan and Grantland Avenues. Traffic counts were performed at the following intersections in 2011:

- Grantland Avenue / Ashlan Avenue;
- Bryan Avenue / Ashlan Avenue;
- Hayes Avenue / Ashlan Avenue; and
- Grantland Avenue / Shaw Avenue.

Existing-Conditions Intersection LOS and Signal Warrant Analysis

The results of the existing-conditions intersection LOS analyses and the peak-hour traffic signal warrants analyses are summarized in Table 3.14-8. The intersection analysis sheets are presented in Appendix C of the TIS. The peak hour warrant plots are presented in Appendix D of the TIS.

**Table 3.14-8
Intersection Analysis Summary – Existing Conditions**

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		LOS	Delay (sec)	Signal Warrant	LOS	Delay (sec)	Signal Warrant
Grantland / Whitesbridge	TWS	C	16.9	-	C	16.2	-
Grantland / Belmont	TWS	B	12.7	-	B	11.0	-
Grantland / Olive	TWS	B	10.0	-	A	9.6	-
Grantland / McKinley	TWS	B	13.0	-	B	11.0	-
Grantland / Clinton	OWS	A	9.3	-	A	9.3	-
Bryan / Clinton	TWS	A	9.8	-	A	9.6	-
Hayes / Clinton	TWS	B	10.1	-	A	10.0	-
Polk / Clinton	AWS	A	9.5	-	A	7.9	-
Cornelia / Clinton	AWS	A	9.1	-	A	8.2	-
Blythe / Clinton	Signal	C	21.4	-	B	18.5	-
Brawley / Clinton	Signal	B	15.7	-	B	19.3	-
Valentine / Clinton	AWS	D	33.5	-	D	32.6	-
Marks / Clinton	Signal	C	30.1	-	C	29.4	-
Grantland / Shields	AWS	A	9.9	-	A	8.2	-

Bryan / Shields	TWS	B	12.1	-	B	10.4	-
Hayes / Shields	TWS	B	12.8	-	B	11.3	-
Polk / Shields	AWS	B	12.0	-	A	8.9	-
Cornelia / Shields	AWS	B	12.4	-	A	8.6	-
Blythe / Shields	AWS	C	15.9	-	B	11.2	-
Brawley / Shields	AWS	B	10.6	-	B	14.1	-
Valentine / Shields	AWS	B	13.3	-	B	12.0	-
SR 99 SB ramps / Shields / Parkway	AWS	B	14.0	-	B	11.4	-
Grantland / Dakota	DNE	-	-	-	-	-	-
Bryan / Dakota	DNE	-	-	-	-	-	-
Grantland / Ashlan	OWS	A	9.8	-	B	11.9	-
Bryan / Ashlan	AWS	C	15.8	-	A	7.4	-
Hayes / Ashlan	AWS	B	14.4	-	A	8.7	-
Polk / Ashlan	AWS	C	16.1	-	B	11.4	-
Cornelia / Ashlan	Signal	C	35.0	-	C	23.9	-
Blythe / Ashlan	Signal	C	29.2	-	C	22.4	-
Grantland / Gettysburg (West)	DNE	-	-	-	-	-	-
Grantland / Shaw	TWS	D	29.5	-	D	31.6	-
Veterans / Shaw	DNE	-	-	-	-	-	-
Bryan / Shaw	OWS	C	16.9	-	C	20.7	-
Hayes / Shaw	OWS	B	13.7	-	B	12.8	-
Veterans / Barstow	DNE	-	-	-	-	-	-
Veterans / Bryan	DNE	-	-	-	-	-	-
Veterans / Gettysburg	DNE	-	-	-	-	-	-

Existing-Conditions Queuing Analysis

The results of the existing-conditions queuing analyses are summarized in Table 3.14-9. Calculated 95th-percentile queues exceeding the storage capacity are identified in bold type. The queue analysis sheets are presented in Appendix C of the TIS.

**Table 3.14-9
Queuing Analysis Summary – Existing Conditions**

Intersection	Condition	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
Blythe / Clinton	Storage Length	150	100	250	115	265	255	250	150
	A.M. Peak	63	25	212	20	57	31	91	17
	P.M. Peak	46	16	74	34	55	34	95	27
Brawley / Clinton	Storage Length	300	115	370	60	165	100	275	90
	A.M. Peak	74	26	49	27	41	23	69	30
	P.M. Peak	139	23	112	40	59	30	102	33
Marks / Clinton	Storage Length	350	-	250	-	270	150	260	225
	A.M. Peak	43	-	120	-	59	39	329	17
	P.M. Peak	49	-	144	-	66	51	263	28
Cornelia / Ashlan	Storage Length	245	-	280	300	175	95	150	-
	A.M. Peak	25	-	178	27	38	88	288	-
	P.M. Peak	31	-	212	53	29	58	242	-
Blythe / Ashlan	Storage Length	185	135	270	-	150	195	285	-
	A.M. Peak	26	23	239	-	107	65	234	-
	P.M. Peak	32	15	254	-	121	45	210	-

All distances in feet

Existing Conditions Road Segment Analyses

The results of the existing-conditions road segment analyses are summarized in Table 3.14-10. Deficiencies are identified in bold type. Detailed road segment analyses are presented in Appendix A of the TIS.

Existing Conditions Deficiencies

The study intersections are currently operating at acceptable levels of service.

The following intersections currently exhibit calculated 95th-percentile queues that exceed storage capacity:

- Marks and Clinton Avenues: southbound left; and
- Cornelia and Ashlan Avenues: southbound left.

PROJECT TRIP GENERATION

Data provided in the Institute of Transportation Engineers (ITE) Trip Generation, 8th Edition, are typically used to estimate the number of trips anticipated to be generated by proposed projects. The ITE Trip Generation is a standard reference used by jurisdictions throughout the country for the estimation of trip generation potential of proposed developments. For purposes of analyzing a “worst case scenario,” the traffic study, noise study, and air quality analysis relied on the following general breakdown of project buildout.

Summary of Project Buildout

Year of Completion	Single Family	Multi-Family	Commercial	Lake
2016	648 units	-	-	Constructed and filled
2018	703 units	274 units	147,500 sq. ft.	-
2020	702 units	273 units	147,500 sq. ft.	-
Total:	2,053 units	547 units	295,000 sq. ft.	-

More specific phasing information will occur during discretionary actions involving the CUP, tentative tract maps, and building permits. The analysis herein takes into account an aggressive development schedule that in some cases may overstate project impacts. This methodology was undertaken so as to not understate potential project impacts. In addition, commercial square footage is slightly overstated (313,414 was used in the calculations, but the project is proposing only 295,000 sq. ft.). The discrepancy is due to a square footage calculation based on a Floor Area Ratio of 25 percent. As stated previously in this section, in addition to the Existing Plus Project scenario, the TIS includes an analysis of the year 2016, 2021 and 2030 scenarios. Table 3.14-11 presents the trip generation estimates for initial development in Phase 1 (216 units) of the Project. Phase 1 (216 units) is essentially just a portion of the year 2016 scenario (648 units) and is intended to show impacts associated with initial project activities.

**Table 3.14-10
Road Segment Analysis Summary – Existing Conditions**

Road Segment	Lanes	Area Type	A.M. Peak Hour		P.M. Peak Hour	
			Volume	LOS	Volume	LOS
Grantland Avenue						
Shaw to Ashlan	2-U	Transitioning	214	C	289	C
Ashlan to Dakota	2-U	Transitioning	235	C	218	C
Dakota to Shields	2-U	Transitioning	235	C	205	C
Shields to Clinton	2-U	Transitioning	157	C	165	C
Clinton to McKinley	2-U	Transitioning	145	C	140	C
McKinley to Olive	2-U	Transitioning	98	C	96	C
Olive to Belmont	2-U	Transitioning	76	C	70	C
Belmont to Whitesbridge	2-U	Transitioning	58	C	39	C
Bryan Avenue						
Shaw to Gettysburg	2-U	Transitioning	204	C	144	C
Gettysburg to Ashlan	2-U	Transitioning	294	C	150	C
Ashlan to Dakota	2-U	Transitioning	153	C	68	C
Dakota to Shields	2-U	Transitioning	64	C	43	C
Shields to Clinton	2-U	Transitioning	55	C	31	C
Hayes Avenue						
Shaw to Gettysburg	2-U	Transitioning	123	C	72	C
Gettysburg to Ashlan	2-U	Transitioning	196	C	158	C
Ashlan to Dakota	2-U	Transitioning	248	C	183	C
Dakota to Shields	2-U	Transitioning	104	C	78	C
Shields to Clinton	2-U	Transitioning	100	C	90	C
Polk Avenue						
Ashlan to Dakota	2-U	Transitioning	629	C	472	C
Dakota to Shields	2-U	Transitioning	497	C	334	C
Shields to Clinton	2-U	Transitioning	366	C	261	C
Blythe Avenue						
Ashlan to Dakota	2-U	Transitioning	570	C	539	C
Dakota to Shields	2-U	Transitioning	418	C	396	C
Shields to Clinton	2	Transitioning	559	C	473	C
Brawley Avenue						
Shields to Clinton	2-U	Transitioning	471	C	841	D
Shaw Avenue						
Grantland to Bryan	2-U	Transitioning	637	C	784	D
Bryan to Hayes	2-U	Transitioning	738	D	840	D
Ashlan Avenue						
Grantland to Bryan	2	Transitioning	452	C	167	C
Bryan to Hayes	2-U	Transitioning	528	C	271	C
Hayes to Polk	2-U	Transitioning	446	C	338	C
Polk to Cornelia	2	Transitioning	679	C	611	C
Cornelia to Blythe	4	Transitioning	1,500	C	1,594	C
Blythe to Parkway	4	Transitioning	1,959	C	2,063	C

All roadways are divided unless otherwise indicated

U – Indicates undivided roadway

Table 3.14-10 (Continued)
Road Segment Analysis Summary – Existing Conditions

Road Segment	Lanes	Area Type	A.M. Peak Hour		P.M. Peak Hour		
			Volume	LOS	Volume	LOS	
Dakota Avenue							
Grantland to Bryan	DNE	-	-	-	-	-	
Shields Avenue							
Grantland to Bryan	2-U	Transitioning	343	C	164	C	
Bryan to Hayes	2-U	Transitioning	339	C	217	C	
Hayes to Polk	2-U	Transitioning	377	C	239	C	
Polk to Cornelia	2-U	Transitioning	371	C	261	C	
Cornelia to Blythe	2-U	Transitioning	535	C	350	C	
Blythe to Brawley	2-U	Transitioning	487	C	441	C	
Brawley to Valentine	2-U	Transitioning	634	C	693	D	
Valentine to Parkway	2-U	Transitioning	610	C	695	D	
Clinton Avenue							
Grantland to Bryan	2-U	Transitioning	56	C	49	C	
Bryan to Hayes	2-U	Transitioning	77	C	79	C	
Hayes to Polk	2-U	Transitioning	116	C	108	C	
Polk to Cornelia	2-U	Transitioning	269	C	223	C	
Cornelia to Blythe	2-U	Transitioning	638	C	724	C	
Blythe to Brawley	4	Transitioning	882	C	976	C	
Brawley to Valentine	2-U	Transitioning	900	D	1,073	D	
Valentine to Marks	2-U	Transitioning	1,063	D	1,450	F	
Marks to Vassar	4	Transitioning	1,574	C	2,244	D	
Veterans Boulevard							
Gettysburg S. to Gettysburg N.	DNE	-	-	-	-	-	
Gettysburg N. to Shaw	DNE	-	-	-	-	-	
Shaw to Barstow	DNE	-	-	-	-	-	
Barstow to Bryan	DNE	-	-	-	-	-	
Bryan to SR 99	DNE	-	-	-	-	-	

All roadways are divided unless otherwise indicated U – Indicates undivided roadway

The following road segment currently operates at a substandard level of service:

- Clinton Avenue between Valentine and Marks Avenues.

Table 3.14-11
Project Phase 1 Trip Generation

Land Use	ITE Code	Units	A.M. Peak Hour			P.M. Peak Hour			Weekday	
			Traffic Volumes			Traffic Volumes			Traffic Volumes	
			Rate	Enter	Exit	Rate	Enter	Exit	Rate	Total
Single-Family Housing	210	216	0.75 25/75	41	121	1.01 63/37	137	81	9.57	2,067

Reference: *Trip Generation, 8th Edition*, Institute of Transportation Engineers 2008.

Rates are reported in trips per dwelling unit.

Splits are reported as Entering/Exiting as a percentage of the total.

Table 3.14-12 presents the trip generation information for the estimated 2016 year conditions.

**Table 3.14-12
2016 Project Trip Generation**

Land Use	ITE Code	Units	A.M. Peak Hour			P.M. Peak Hour			Weekday	
			Traffic Volumes			Traffic Volumes			Traffic Volumes	
			Rate Split	Enter	Exit	Rate Split	Enter	Exit	Rate	Total
Single-Family Housing	210	648	0.75 25/75	122	364	1.01 63/37	412	242	9.57	6,202

Reference: *Trip Generation, 8th Edition*, Institute of Transportation Engineers 2008.
Rates are reported in trips per dwelling unit.
Splits are reported as Entering/Exiting as a percentage of the total.

Table 3.14-13 presents the trip generation information for full buildout of the Project, which is utilized for both the year 2021 and 2030 analysis. It should be noted that the current Project description includes 295,000 square feet of commercial uses and will be the maximum allowable amount of commercial development. The calculations below include up to 313,414 square feet of shopping center, which is a conservative assumption based on 25-percent floor area ratio of approximately 28.78 acres.

**Table 3.14-13
2021 and 2030 Full Buildout Project Trip Generation**

Land Use	ITE Code	Units	A.M. Peak Hour			P.M. Peak Hour			Weekday	
			Traffic Volumes			Traffic Volumes			Traffic Volumes	
			Rate Split	Enter	Exit	Rate Split	Enter	Exit	Rate	Total
Shopping Center	820	313,414 sq. ft.	1.00 61/39	191	122	3.73 49/51	573	597	42.94	13,458
Single-Family Housing	210	2,053	0.75 25/75	385	1,155	1.01 63/37	1,307	767	9.57	19,648
Apartment	220	547	0.51 20/80	56	223	0.62 65/35	220	119	6.65	3,638
TOTAL			-	632	1,500	-	2,100	1,483	-	36,744

Reference: *Trip Generation, 8th Edition*, Institute of Transportation Engineers 2008.
Rates are reported in trips per 1,000 square feet or dwelling units as applicable.
Splits are reported as Entering/Exiting as a percentage of the total.

Pass-by and captured-trip reductions are typically not considered for City of Fresno projects and were not applied to the Project trips.

IMPACT EVALUATION CRITERIA

According to Appendix G of the CEQA Guidelines, a project will normally have significant adverse impacts associated with traffic/transportation if it would:

- 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 due 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?*
- g) *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

3.14.2 IMPACT ANALYSIS

Impacts that were not potentially significant, based on the analysis contained in the Initial Study, are only briefly addressed in this EIR. The Initial Study found that the proposed project would have a less than significant impact on air traffic patterns, design feature hazards, emergency access, parking capacity, or conflict with adopted plans for supporting alternative transportation (impact evaluation criteria c through g).

Impact #3.14.1 – 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.

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?

[Evaluation Criteria (a) and (b)]

The TIS provides detailed analyses of project impacts resulting, for each phase of project development, from project-related increases over existing conditions (no development on the site) in traffic levels and exceedance of LOS thresholds, including queuing analyses. The Project will be required to mitigate the significant impacts as described herein. The following is a summary of project impacts:

Existing Plus Project Conditions

Existing Plus Project assumes full build-out of the project in year one. Existing Plus Project analysis was completed and is provided in Section 10.0 of the TIS (Appendix I). Although analysis of this scenario identifies the extent of impacts of the Project on its own without any other development, these conditions are generally not realistic as the Project will require 10 or more years to complete, a time in which, road and intersections will be impacted by other future development. Although with that said, it should be noted again, as described on page 3.14-1, for purposes of ensuring the EIR does not underestimate impacts the EIR assumes full build-out by 2020.

Existing Plus Phase 1 Conditions

The construction of the Phase 1 portion of the Project, up to 216 housing units, is expected to create significant impacts as described below. Phase 1 (216 units) is essentially just a portion of the year 2016 scenario (648 units) and is intended to show impacts associated with initial project activities.

1. The Project will cause a substandard LOS at the intersection of Grantland and Shaw Avenues.

Year 2016 With Project Conditions

The year 2016 With-Project Conditions analyzes cumulative traffic volumes for the year 2016 plus buildout of 648 units. Section 5.0 of the TIS (Appendix I) describes how the cumulative 2016 No-Project traffic volumes were determined. Traffic infrastructure improvements assumed to be constructed before the 648 units are described in Section 5.2 of the TIS. These conditions may or may not occur in the year 2016. Therefore, the mitigations should be associated with the phases of construction and not necessarily the year in which the phases are constructed. The impacts below are identified as either, the project “will cause” or the project “will exacerbate” a substandard LOS. The Project will “exacerbate” a substandard LOS when development not including the Projects (at 2016) is predicted to cause substandard LOS conditions.

1. The Project will exacerbate a substandard LOS at the intersection of Grantland and Whitesbridge Avenues.
2. The Project will exacerbate a substandard LOS at the intersection of Hayes and Shields Avenues.

3. The Project will exacerbate a substandard LOS at the intersection of Polk and Shields Avenues.
4. The Project will exacerbate a substandard LOS at the intersection of Blythe and Shields Avenues.
5. The Project will exacerbate a substandard a.m. peak hour LOS and cause a substandard p.m. peak hour LOS at the intersection of Valentine and Shields Avenues.
6. The Project will cause a substandard LOS at the intersection of Grantland and Ashlan Avenues.
7. The Project will exacerbate a substandard LOS at the intersection of Bryan and Ashlan Avenues.
8. The Project will exacerbate a substandard LOS at the intersection of Hayes and Ashlan Avenues.
9. The Project will exacerbate a substandard LOS at the intersection of Polk and Ashlan Avenues.
10. The Project will exacerbate a substandard LOS at the intersection of Cornelia and Ashlan Avenues.
11. The Project will exacerbate a substandard LOS at the intersection of Grantland and Shaw Avenues.
12. The Project will exacerbate a substandard LOS at the intersection of Bryan and Shaw Avenues.
13. The Project will cause a substandard LOS at the intersection of Hayes and Shaw Avenues.
14. The Project will exacerbate a substandard LOS on Shaw Avenue between Grantland Avenue and Bryan Avenue.
15. The Project will cause a substandard a.m. peak hour LOS on Shaw Avenue between Bryan Avenue and Hayes Avenue.
16. The Project will cause a substandard p.m. peak hour LOS on Ashlan Avenue between Polk Avenue and Cornelia Avenue.
17. The Project will cause a substandard p.m. peak hour LOS on Shields Avenue between Brawley Avenue and Valentine Avenue.

Year 2021 With Project Conditions

The year 2021 With-Project Conditions analyzes cumulative traffic volumes for the year 2021 plus the Project. Section 5.0 of the TIS (Appendix I) describes how the cumulative 2021 No-Project traffic volumes were determined. Traffic infrastructure improvements assumed to be constructed before the Project are described in Section 5.2 of the TIS. These conditions may or may not occur in the year 2021. Therefore, the mitigations should be associated with the phases of construction and not necessarily the year in which the phases are constructed.

1. The Project will exacerbate a substandard LOS at the intersection of Grantland and Whitesbridge Avenues.
2. The Project will exacerbate a substandard LOS at the intersection of Hayes and Clinton Avenues.
3. The Project will exacerbate a substandard LOS at the intersection of Valentine and Clinton Avenues.
4. The Project will cause a substandard LOS at the intersection of Grantland and Shields Avenues.
5. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS at the intersection of Bryan and Shields Avenues.
6. The Project will exacerbate a substandard LOS at the intersection of Hayes and Shields Avenues.
7. The Project will exacerbate a substandard LOS at the intersection of Polk and Shields Avenues.
8. The Project will cause a substandard LOS at the intersection of Cornelia and Shields Avenues.
9. The Project will exacerbate a substandard LOS at the intersection of Blythe and Shields Avenues.
10. The Project will exacerbate a substandard LOS at the intersection of Brawley and Shields Avenues.
11. The Project will exacerbate a substandard LOS at the intersection of Valentine and Shields Avenues.
12. The Project will exacerbate a substandard LOS at the intersection of the SR 99 southbound ramps and Shields Avenue/Parkway Drive.

13. The Project will cause a substandard LOS at the intersection of Grantland and Dakota Avenues.
14. The Project will cause a substandard LOS at the intersection of Bryan and Dakota Avenues.
15. The Project will exacerbate a substandard a.m. peak hour LOS and cause a substandard p.m. peak hour LOS at the intersection of Grantland and Ashlan Avenues.
16. The Project will cause a substandard LOS at the intersection of Bryan and Ashlan Avenues.
17. The Project will exacerbate a substandard LOS at the intersection of Hayes and Ashlan Avenues.
18. The Project will exacerbate a substandard LOS at the intersection of Polk and Ashlan Avenues.
19. The Project will cause a substandard LOS at the intersection of Cornelia and Ashlan Avenues.
20. The Project will cause a substandard LOS at the intersection of Blythe and Ashlan Avenues.
21. The Project will cause a substandard LOS at the intersection of Grantland Avenue and the southern extension of Gettysburg Avenue on the west side of Grantland Avenue.
22. The Project will exacerbate a substandard LOS at the intersection of Grantland and Shaw Avenues.
23. The Project will exacerbate a substandard LOS at the intersection of Veterans Boulevard and Shaw Avenues.
24. The Project will exacerbate a substandard LOS at the intersection of Bryan and Shaw Avenues.
25. The Project will exacerbate a substandard LOS at the intersection of Hayes and Shaw Avenues.
26. The Project will exacerbate a substandard LOS at the intersection of Veterans Boulevard and Barstow Avenue.
27. The Project will exacerbate a substandard LOS at the intersection of Veterans Boulevard and Bryan Avenue.
28. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS on Grantland Avenue between Shaw Avenue and Veterans Boulevard.

29. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS on Grantland Avenue between Veterans Boulevard and Ashlan Avenue.
30. The Project will cause a substandard LOS on Grantland Avenue between Ashlan Avenue and Dakota Avenue.
31. The Project will cause a substandard LOS on Grantland Avenue between Dakota Avenue and Shields Avenue.
32. The Project will exacerbate a substandard LOS on Shaw Avenue between Grantland Avenue and Veterans Boulevard.
33. The Project will exacerbate a substandard LOS on Shaw Avenue between Veterans Boulevard and Bryan Avenue.
34. The Project will exacerbate a substandard LOS on Shaw Avenue between Bryan Avenue and Hayes Avenue.
35. The Project will cause a substandard LOS on Ashlan Avenue between Grantland Avenue and Bryan Avenue.
36. The Project will cause a substandard LOS on Ashlan Avenue between Bryan Avenue and Hayes Avenue.
37. The Project will cause a substandard LOS on Ashlan Avenue between Hayes Avenue and Polk Avenue.
38. The Project will cause a substandard LOS on Ashlan Avenue between Polk Avenue and Cornelia Avenue.
39. The Project will cause a substandard LOS on Ashlan Avenue between Cornelia Avenue and Blythe Avenue.
40. The Project will cause a substandard LOS on Ashlan Avenue between Blythe Avenue and Parkway Drive.
41. The Project will cause a substandard LOS on Shields Avenue between Cornelia Avenue and Blythe Avenue.
42. The Project will cause a substandard LOS on Shields Avenue between Blythe Avenue and Brawley Avenue.
43. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS on Shields Avenue between Brawley Avenue and Valentine Avenue.

44. The Project will exacerbate a substandard LOS on Shields Avenue between Valentine Avenue and Parkway Drive.
45. The Project will cause a substandard LOS on Clinton Avenue between Cornelia Avenue and Blythe Avenue.
46. The Project will cause a substandard LOS on Veterans Boulevard between Barstow Avenue and Bryan Avenue.
47. The Project will exacerbate a substandard LOS on Veterans Boulevard between Bryan Avenue and SR 99.
48. There are no established school routes adjacent to the Project site.

Year 2030 With Project Conditions

The year 2030 With-Project Conditions analyzes cumulative traffic volumes for the year 2030 plus the Project. Section 5.0 of the TIS (Appendix I) describes how the cumulative 2030 No-Project traffic volumes were determined. Traffic infrastructure improvements assumed to be constructed by the year 2030 are described in Section 5.2 of the Traffic Impact Study. It is typical to perform traffic analyses for project opening day and for a 20-year cumulative horizon. The 2021 analyses represent the opening-day condition for the full project, while the 2030 scenario represents a 20-year cumulative horizon (traffic study was initiated in 2007/2008) that includes additional cumulative growth per the City of Fresno 2025 General Plan as described in Section 5.0 of the TIS.

1. The Project will exacerbate a substandard LOS at the intersection of Grantland and Whitesbridge Avenues.
2. The Project will exacerbate a substandard LOS at the intersection of Grantland and Belmont Avenues.
3. The Project will exacerbate a substandard LOS at the intersection of Grantland and McKinley Avenues.
4. The Project will exacerbate a substandard LOS at the intersection of Hayes and Clinton Avenues.
5. The Project will exacerbate a substandard LOS at the intersection of Polk and Clinton Avenues.
6. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS at the intersection of Cornelia and Clinton Avenues.
7. The Project will exacerbate a substandard LOS at the intersection of Valentine and Clinton Avenues.

8. The Project will exacerbate a substandard LOS at the intersection of Grantland and Shields Avenues.
9. The Project will exacerbate a substandard LOS at the intersection of Bryan and Shields Avenues.
10. The Project will exacerbate a substandard LOS at the intersection of Hayes and Shields Avenues.
11. The Project will exacerbate a substandard LOS at the intersection of Polk and Shields Avenues.
12. The Project will exacerbate a substandard LOS at the intersection of Cornelia and Shields Avenues.
13. The Project will exacerbate a substandard LOS at the intersection of Blythe and Shields Avenues.
14. The Project will exacerbate a substandard LOS at the intersection of Brawley and Shields Avenues.
15. The Project will exacerbate a substandard LOS at the intersection of Valentine and Shields Avenues.
16. The Project will exacerbate a substandard LOS at the intersection of the SR 99 southbound ramps and Shields Avenue/Parkway Drive.
17. The Project will cause a substandard LOS at the intersection of Grantland and Dakota Avenues.
18. The Project will cause a substandard LOS at the intersection of Bryan and Dakota Avenues.
19. The Project will exacerbate a substandard LOS at the intersection of Grantland and Ashlan Avenues.
20. The Project will cause a substandard LOS at the intersection of Bryan and Ashlan Avenues.
21. The Project will exacerbate a substandard LOS at the intersection of Hayes and Ashlan Avenues.
22. The Project will exacerbate a substandard LOS at the intersection of Polk and Ashlan Avenues.
23. The Project will cause a substandard LOS at the intersection of Cornelia and Ashlan Avenues.
24. The Project will cause a substandard LOS at the intersection of Blythe and Ashlan Avenues.

25. The Project will cause a substandard LOS at the intersection of Grantland Avenue and the extension of Gettysburg Avenue on the west side of Grantland Avenue.
26. The Project will exacerbate a substandard LOS at the intersection of Grantland and Shaw Avenues.
27. The Project will exacerbate a substandard LOS at the intersection of Veterans Boulevard and Shaw Avenues.
28. The Project will exacerbate a substandard LOS at the intersection of Bryan and Shaw Avenues.
29. The Project will exacerbate a substandard LOS at the intersection of Hayes and Shaw Avenues.
30. The Project will exacerbate a substandard LOS at the intersection of Veterans Boulevard and Barstow Avenue.
31. The Project will exacerbate a substandard LOS at the intersection of Veterans Boulevard and Bryan Avenue.
32. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS at the intersection of Veterans Boulevard and Gettysburg Avenue.
33. The Project will cause a substandard LOS on Grantland Avenue between Veterans Boulevard and Ashlan Avenue.
34. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS on Grantland Avenue between Ashlan Avenue and Dakota Avenue.
35. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS on Grantland Avenue between Dakota Avenue and Shields Avenue.
36. The Project will exacerbate a substandard LOS on Shaw Avenue between Veterans Boulevard and Bryan Avenue.
37. The Project will exacerbate a substandard LOS on Shaw Avenue between Bryan Avenue and Hayes Avenue.
38. The Project will cause a substandard LOS on Ashlan Avenue between Bryan Avenue and Hayes Avenue.
39. The Project will cause a substandard LOS on Ashlan Avenue between Hayes Avenue and Polk Avenue.

40. The Project will cause a substandard LOS on Ashlan Avenue between Polk Avenue and Cornelia Avenue.
41. The Project will cause a substandard LOS on Ashlan Avenue between Blythe Avenue and Parkway Drive.
42. The Project will cause a substandard a.m. peak hour LOS and p.m. peak hour LOS on Shields Avenue between Cornelia Avenue and Blythe Avenue.
43. The Project will cause a substandard a.m. peak hour LOS and exacerbate a substandard p.m. peak hour LOS on Shields Avenue between Blythe Avenue and Brawley Avenue.
44. The Project will exacerbate a substandard LOS on Shields Avenue between Brawley Avenue and Valentine Avenue.
45. The Project will exacerbate a substandard LOS on Shields Avenue between Valentine Avenue and Parkway Drive.
46. The Project will cause a substandard LOS on Veterans Boulevard between Shaw Avenue and Barstow Avenue.
47. The Project will cause a substandard p.m. peak hour LOS on Veterans Boulevard between Barstow Avenue and Bryan Avenue.
48. The Project will exacerbate a substandard LOS on Veterans Boulevard between Bryan Avenue and SR 99.
49. There are no established school routes adjacent to the Project site.

Conclusion: Generally-accepted traffic engineering principles and methods were employed to estimate the amount of traffic expected to be generated by the Project and to analyze the traffic conditions expected to exist in the future.

The Project is expected to create significant impacts or contribute to significantly impacted traffic conditions as various stages of development occur.

The operation of the internal Project streets has been analyzed based on Project assumptions. The City of Fresno may require additional traffic analyses focused on internal streets and site access intersections when tentative maps and/or site plans are submitted.

The proposed elimination of Dakota Avenue as a planned collector street between Grantland and Garfield Avenues and the elimination of Ashlan Avenue as a planned arterial street between Grantland and Garfield Avenues can be accommodated with acceptable traffic operations provided that the mitigations required of the Project are implemented.

For purposes of this analysis, it is assumed that the proposed project will have constructed the following improvements:

- Construction of the entire frontage of Grantland Avenue to its ultimate right-of-way configuration prior to full buildout of the project;
- Construction of Gettysburg Avenue west of Grantland Avenue prior to completion of 648 residential units; and
- Construction of Dakota Avenue between Grantland Avenue and Hayes Avenue prior to full buildout of the project.

A summary of required mitigation measures are also provided in Table 3.14-13 and Table 3.14-14.

Mitigation Measure #3.14.1: As determined by the City of Fresno, the Project shall mitigate its fair share of cumulative impacts by paying into the City of Fresno TSMI, FMSI, and RTMF fee program and/or constructing the improvements and receiving credits and reimbursements for the portion of construction that is included in the fee program as identified in Mitigation Measures 3.14.1-1 through 3.14.1-117.

The following mitigation measures shall be implemented prior to development of the first 216 residential units:

Mitigation Measure #3.14.1-1: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Grantland and Shaw Avenues. With implementation of this mitigation the intersection will operate at LOS C. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

Mitigation Measure #3.14.1-2: The Project shall coordinate with the Central Unified School District to develop a school route plan for each elementary school served by the Project in accordance with the CMUTCD.

The following mitigation measures shall be implemented prior to development of 648 residential units:

Mitigation Measure #3.14.1-3: The intersection of Grantland and Whitesbridge Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
- Westbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

Intersection improvements shall be constructed in accordance with Caltrans standards. With implementation of this mitigation the intersection will operate at LOS B.

Mitigation Measure #3.14.1-4: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Hayes and Shields Avenues. With implementation of this mitigation the intersection will operate at LOS C. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

Mitigation Measure #3.14.1-5: The intersection of Polk and Shields Avenues shall be widened to provided dedicated left-turn lanes and one through lane with a shared right turn on all four approaches. The existing all-way stop control will remain. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-6: Eastbound and westbound left-turn lanes shall be constructed on Shields Avenue. The existing all-way stop control will remain. With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-7: The intersection of Valentine and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-8: The intersection of Grantland and Ashlan Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and three through lanes with a shared right turn (already existing); and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-9: The intersection of Bryan and Ashlan Avenues shall be signalized with protected left-turn phasing. The existing lane configurations will remain. These improvements are identical to Mitigation E-4. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-10: The intersection of Hayes and Ashlan Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;

Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

These improvements are identical to Mitigation E-5. With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-11: The intersection of Polk and Ashlan Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn (already existing);
Westbound: one left-turn lane, one through lane, and one right-turn lane;
Northbound: one left-turn lane, one through lane, and one right-turn lane; and
Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-12: The traffic signal timing at the intersection of Cornelia and Ashlan Avenues shall be optimized. The southbound left-turn lane shall be restriped to provide a storage length of 325 feet. With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-13: The intersection of Grantland and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane, one through lane, and one right-turn lane;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-14: The intersection of Bryan and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: two through lanes with a shared right turn;
Westbound: one left-turn lane and two through lanes;
Northbound: one left-turn lane and one right-turn lane (already existing); and
Southbound: Will not exist.

With implementation of this mitigation the intersection will operate at LOS B.

Mitigation Measure #3.14.1-15: The intersection of Hayes and Shaw Avenues shall be widened with an eastbound right-turn lane and a westbound left-turn lane. The current one-way

stop control will be maintained. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-16: The installation of left-turn lanes at Grantland Avenue and at Bryan Avenue will provide additional capacity on Shaw Avenue between Bryan Avenue and Grantland Avenue. With implementation of this mitigation the road segment will operate at LOS D during the a.m. peak hour. It should be noted that the Project does not create a significant impact during the p.m. peak hour, which will continue to operate at LOS E after the mitigation is constructed.

Mitigation Measure #3.14.1-17: The installation of left-turn lanes at Bryan Avenue and at Hayes Avenue will provide additional capacity on Shaw Avenue between Hayes Avenue and Bryan Avenue. With implementation of this mitigation the road segment will operate at LOS D during the a.m. peak hour. It should be noted that the Project does not create a significant impact during the p.m. peak hour, which will continue to operate at LOS E after the mitigation is constructed.

Mitigation Measure #3.14.1-18: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Polk Avenue and Cornelia Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-19: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Brawley Avenue and Valentine Avenue. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-20: The Project shall coordinate with the Central Unified School District to develop a school route plan for each elementary school served by the Project in accordance with the CMUTCD at each phase of development.

The following mitigation measures shall be implemented prior to 2021 or full build out of the project:

Mitigation Measure #3.14.1-21: The intersection of Grantland and Whitesbridge Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
- Westbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

Intersection improvements shall be constructed in accordance with Caltrans standards. These improvements are identical to Mitigation Measure #3.14.1-3. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-22: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Hayes and Clinton Avenues. The intersection should be widened to provide the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

As an alternative mitigation, the West Area study recommends a roundabout at the intersection of Hayes and Clinton Avenues for the year 2035 conditions. With implementation of a single-lane roundabout, the intersection will operate at LOS B. The roundabout configuration is potentially constrained by existing single-family residences near the intersection.

Mitigation Measure #3.14.1-23: The intersection of Valentine and Clinton Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn (already existing);
Westbound: one left-turn lane, one through lane, and one right-turn lane;
Northbound: one left-turn lane, one through lane, and one right-turn lane; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-24: The intersection of Grantland and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-25: The intersection of Bryan and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

As an alternative mitigation, the West Area study recommends a roundabout at the intersection of Bryan and Shields Avenues for the year 2035 conditions. With implementation of a single-lane roundabout, the intersection will operate at LOS B. The roundabout configuration is potentially constrained by existing single-family residences near the intersection.

Mitigation Measure #3.14.1-26: The intersection of Hayes and Shields Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

As an alternative mitigation, the West Area study recommends a roundabout at the intersection of Hayes and Shields Avenues for the year 2035 conditions. With implementation of a single-lane roundabout, the intersection will operate at LOS C.

Mitigation Measure #3.14.1-27: The intersection of Polk and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn;
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C. An identical mitigation measure for widening (but not traffic signals) is recommended in Mitigation #3.14.1-5.

Mitigation Measure #3.14.1-28: The intersection of Cornelia and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
- Westbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
- Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

The southbound left-turn lane shall be lengthened to provide at least 200 feet of storage. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-29: The intersection of Blythe and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

With implementation of this mitigation the intersection will operate at LOS D. An identical mitigation measure for widening (but not traffic signals) is recommended in Mitigation #3.14.1-6.

Mitigation Measure #3.14.1-30: The intersection of Brawley and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn (already existing);
Westbound: one left-turn lane, one through lane, and one right-turn lane (already existing);
Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
Southbound: one left-turn lane, one through lane, and one right-turn lane (already existing).

With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-31: The intersection of Valentine and Shields Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

These improvements are identical to Mitigation Measure # 3.14.1-7. With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-32: The intersection of the SR 99 southbound ramps and Shields Avenue/Parkway Drive will require substantial redesign and signalization to achieve minimum Caltrans levels of service. A two-lane roundabout shall be constructed with free right-turn lanes

on the eastbound and southbound approaches. With construction of such a roundabout the intersection will operate at LOS B.

As an alternative mitigation, the intersection shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane, one through lane, and one right-turn lane;
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: two left-turn lanes, one through lane, and one right-turn lane; and
- Southbound: one left-turn lane, two through lanes, and one right-turn lane.

Intersection improvements shall be constructed in accordance with Caltrans standards. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-33: The intersection of Grantland and Dakota Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and two through lanes with a shared right turn; and
- Southbound: one left-turn lane and two through lanes with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-34: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Bryan and Dakota Avenues. With implementation of this mitigation the intersection will operate at LOS C. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

Mitigation Measure #3.14.1-35: The intersection of Grantland and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: two left-turn lanes, one through lane, and one right-turn lane;
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane and three through lanes with a shared right turn (already existing); and
- Southbound: one left-turn lane, two through lanes, and one right-turn lane.

The westbound left-turn lane shall be lengthened to provide at least 275 feet of storage. With implementation of this mitigation the intersection will operate at LOS D. A similar, but not identical mitigation measures for signalization and widening is recommended in Mitigation Measure #3.14.1-8.

Mitigation Measure #3.14.1-36: The intersection of Bryan and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn (already existing);
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
- Southbound: one left-turn lane, two through lanes, and one right-turn lane (already existing).

The southbound left-turn lane shall be lengthened to provide at least 250 feet of storage. With implementation of this mitigation the intersection will operate at LOS C. A similar, but not identical mitigation measures for signalization and widening is recommended in Mitigation Measure #3.14.1-9.

Mitigation Measure #3.14.1-37: The intersection of Hayes and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: one left-turn lane and two through lanes with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C. A similar, but not identical mitigation measures for signalization and widening is recommended in Mitigation Measure #3.14.1-10.

Mitigation Measure #3.14.1-38: The intersection of Polk and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: one left-turn lane and two through lanes with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
- Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

The southbound left-turn lane shall be lengthened to provide at least 325 feet of storage. With implementation of this mitigation the intersection will operate at LOS D. A similar, but not identical mitigation measures for signalization and widening is recommended in Mitigation Measure #3.14.1-11.

Mitigation Measure #3.14.1-39: The intersection of Cornelia and Ashlan Avenues shall be widened to provide a second westbound through lane. The westbound right turn may be shared with a through lane. The southbound left-turn lane shall be lengthened to provide at least 500

feet of storage. This mitigation is identical to Mitigation E-4 with the exception of the length of the southbound left-turn lane. With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-40: The intersection of Blythe and Ashlan Avenues shall be widened to provide a second westbound left-turn lane. The northbound left-turn lane shall be lengthened to provide at least 250 feet of storage and the southbound left-turn lane shall be lengthened to provide at least 350 feet of storage. With implementation of this mitigation the intersection will operate at LOS D. This mitigation exceeds the recommendations of the West Area study; however, there are already two receiving lanes existing on southbound Blythe Avenue. Therefore, the existing condition already exceeds the West Area study recommendations and accommodates this proposed mitigation.

Mitigation Measure #3.14.1-41: The intersection of Grantland Avenue and the extension of Gettysburg Avenue on the west side of Grantland Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one right-turn lane;
- Westbound: Will not exist;
- Northbound: one left-turn lane and two through lanes; and
- Southbound: two through lanes with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-42: The intersection of Grantland and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: two left-turn lanes, two through lanes, and one right-turn lane;
- Northbound: one left-turn lane, two through lanes, and two right-turn lanes; and
- Southbound: one left-turn lane and two through lanes with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C. A similar, but not identical mitigation measures for signalization and widening is recommended in Mitigation Measure #3.14.1-13.

The required configuration of the intersection of Grantland and Shaw Avenues is dependent upon the existence of Veterans Boulevard between Grantland Avenue and Shaw Avenue. Once this segment of Veterans Boulevard is constructed the required configuration of the intersection of Grantland and Shaw Avenues will be different. Refer to the year 2030 mitigations for the ultimate configuration required.

Mitigation Measure #3.14.1-43: The intersection of Veterans Boulevard and Shaw Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: two left-turn lanes and two through lanes;
Westbound: two through lane with a shared right turn;
Northbound: Will not exist; and
Southbound: one left-turn lane and two right-turn lanes.

With implementation of this mitigation the intersection will operate at LOS D.

The required configuration of the intersection of Veterans Boulevard and Shaw Avenue is dependent upon the existence of Veterans Boulevard between Grantland Avenue and Shaw Avenue. Once this segment of Veterans Boulevard is constructed the required configuration of the intersection of Veterans Boulevard and Shaw Avenue will be different. Refer to the year 2030 mitigations for the ultimate configuration required.

Mitigation Measure #3.14.1-44: The intersection of Bryan and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: two through lanes with a shared right turn;
Westbound: one left-turn lane and two through lanes;
Northbound: one left-turn lane and one right-turn lane (already existing); and
Southbound: Will not exist.

These improvements are identical to Mitigation Measure #3.14.1-14. With implementation of this mitigation the intersection will operate at LOS B.

Mitigation Measure #3.14.1-45: The intersection of Hayes and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: two through lanes with a shared right turn;
Westbound: one left-turn lane and two through lanes;
Northbound: one left-turn lane and one right-turn lane; and
Southbound: Will not exist.

With implementation of this mitigation the intersection will operate at LOS B.

Mitigation Measure #3.14.1-46: The intersection of Veterans Boulevard and Barstow Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one right-turn lane;
Westbound: Will not exist;
Northbound: one left-turn lane and two through lanes; and
Southbound: two through lanes and one right-turn lane.

With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-47: The intersection of Veterans Boulevard and Bryan Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: two left-turn lanes, one through lane, and one right-turn lane;
Westbound: one left-turn lane, one through lane, and two right-turn lanes;
Northbound: one left-turn lane, three through lanes, and one right-turn lane; and
Southbound: two left-turn lanes, three through lanes, and one right-turn lane.

Overlapping right-turn phasing is required on the westbound and southbound approaches. With implementation of this mitigation the intersection will operate at LOS D.

Mitigation Measure #3.14.1-48: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Shaw Avenue and Veterans Boulevard. The improvements should be made on the ultimate alignment in the 2025 Fresno General Plan, which curves to intersection Veterans Boulevard. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-49: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Veterans Boulevard and Ashlan Avenue. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-50: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Ashlan Avenue and Dakota Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-51: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Dakota Avenue and Shields Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-52: Shaw Avenue shall be widened with a raised median and two through lanes in each direction between Grantland Avenue and Veterans Boulevard. With implementation of this mitigation the road segment will operate at LOS C during the a.m. peak hour and LOS F during the p.m. peak hour. In order to operate at acceptable LOS during the p.m. peak hour, Veterans Boulevard shall be constructed between Grantland Avenue and Shaw Avenue. Construction of Veterans Boulevard south of Shaw Avenue will attract trips from Shaw Avenue and Grantland Avenue along a more direct route with three lanes of travel in each direction. The year 2030 scenario presented later in this report provides analyses for the condition in which Veterans Boulevard between Grantland Avenue and Shaw Avenue has been constructed and identifies acceptable LOS conditions on Shaw Avenue between Grantland Avenue and Veterans Boulevard.

Mitigation Measure #3.14.1-53: Shaw Avenue shall be widened with a raised median and two through lanes in each direction between Veterans Boulevard and Bryan Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-54: Shaw Avenue shall be widened with a raised median and two through lanes in each direction between Bryan Avenue and Hayes Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-55: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Grantland Avenue and Bryan Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-56: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Bryan Avenue and Hayes Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-57: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Hayes Avenue and Polk Avenue. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-58: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Polk Avenue and Cornelia Avenue. These improvements are identical to Mitigation Measure # 3.14.1-18. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-59: Ashlan Avenue has been constructed to its ultimate configuration with four lanes and a median between Cornelia Avenue and Blythe Avenue as identified in the City's 2025 General Plan. The 2025 Fresno General Plan does not identify this segment as constrained; however, the segment of Ashlan Avenue immediately to the east of Blythe Avenue is identified as constrained. Therefore, widening to six lanes would be inconsistent with adopted City plans and there is no other identified mitigation measure that can reduce this impact to less than significant. The road segment will operate at LOS E and the impact will remain significant.

Mitigation Measure #3.14.1-60: Ashlan Avenue has been constructed to its ultimate configuration with four lanes and a median between Blythe Avenue and Parkway Drive. The 2025 Fresno General Plan identifies this segment as constrained and accepts LOS F at this location. Therefore, widening this segment would be inconsistent with adopted City plans and there is no other identified mitigation measure that can reduce this impact to less than significant.

Mitigation Measure #3.14.1-61: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Cornelia Avenue and Blythe Avenue. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-62: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Blythe Avenue and Brawley Avenue. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-63: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Brawley Avenue and Valentine Avenue.

These improvements are identical to Mitigation Measure # 3.14.1-19. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-64: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Valentine Avenue and Parkway Drive. With implementation of this mitigation the road segment will operate at LOS C.

Mitigation Measure #3.14.1-65: Clinton Avenue between Cornelia Avenue and Blythe Avenue shall be widened with a raised median and one lane in each direction. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-66: Veterans Boulevard shall be widened with a raised median and three through lanes in each direction between Barstow Avenue and Bryan Avenue. With implementation of this mitigation the road segment will operate at LOS D.

Mitigation Measure #3.14.1-67: Veterans Boulevard shall be widened with a raised median and three through lanes in each direction between Bryan Avenue and SR 99. With implementation of this mitigation the road segment will operate at LOS D during the a.m. peak hour and LOS F during the p.m. peak hour. The 2025 Fresno General Plan identifies this segment as constrained and accepts LOS F at this location. Therefore, widening this segment would be inconsistent with adopted City plans and there is no other identified mitigation measure that can reduce this impact to less than significant.

Mitigation Measure #3.14.1-68: The Project shall coordinate with the Central Unified School District to develop a school route plan for each elementary school served by the Project in accordance with the CMUTCD at each phase of development.

The following mitigation measures shall be implemented prior to 2030 or full buildout:

Mitigation Measure #3.14.1-69: The intersection of Grantland and Whitesbridge Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane, two through lanes, and one right-turn lane;
- Westbound: one left-turn lane, two through lanes, and one right-turn lane;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

Intersection improvements shall be constructed in accordance with Caltrans standards. With implementation of this mitigation the intersection will operate at LOS C. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-3.

The West Area study calls for the same intersection configuration with a dedicated right-turn lane on the southbound approach rather than a shared right turn by the year 2035. However, the West Area study does not govern at this State intersection.

Mitigation Measure #3.14.1-70: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Grantland and Belmont Avenues. With implementation of this mitigation the intersection will operate at LOS C. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

The West Area study concluded that the intersection will ultimately require widening and the installation of a traffic signal by the year 2035. The intersection is included in the TSMI fee; therefore, the Project will contribute toward the ultimate signalization with payment of the fee even though signalization is not required as a mitigation in the 2030 scenario analyzed herein.

Mitigation Measure #3.14.1-71: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Grantland and McKinley Avenues. With implementation of this mitigation the intersection will operate at LOS C. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

The West Area study concluded that the intersection will ultimately require widening and the installation of a traffic signal by the year 2035. The intersection is included in the TSMI fee; therefore, the Project will contribute toward the ultimate signalization with payment of the fee even though signalization is not required as a mitigation in the 2030 scenario analyzed herein.

Mitigation Measure #3.14.1-72: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Hayes and Clinton Avenues. The intersection should be widened to provide the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

As an alternative mitigation, the West Area study recommends a roundabout at the intersection of Hayes and Clinton Avenues for the year 2035 conditions. With implementation of a single-lane roundabout, the intersection will operate at LOS B. The roundabout configuration is potentially constrained by existing single-family residences near the intersection. These improvements are identical to Mitigation #3.14.1-22.

Mitigation Measure #3.14.1-73: The intersection of Polk and Clinton Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
- Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

With implementation of this mitigation the intersection will operate at LOS D.

As an alternative mitigation, the West Area study recommends a roundabout at the intersection of Polk and Clinton Avenues for the year 2035 conditions. The West Area study designates Polk Avenue as a four-lane arterial, Clinton Avenue as a three-lane collector west of Polk Avenue, and Clinton Avenue as a four-lane arterial east of Polk Avenue. With implementation of a roundabout with two approach lanes and two circulating lanes in the northbound and southbound directions, two approach lanes and one circulating lane in the westbound direction (the second approach lane being trapped to turn right), and one approach lane and one circulating lane in the eastbound direction, the intersection will operate at LOS C. The roundabout configuration is potentially constrained by existing single-family residences near the intersection.

Mitigation Measure #3.14.1-74: The intersection of Cornelia and Clinton Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn (already existing);
- Westbound: one left-turn lane, one through lane, and one right-turn lane (already existing);;
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing);; and
- Southbound: one left-turn lane and one through lane with a shared right turn (already existing);.

With implementation of this mitigation the intersection will operate at LOS C.

The West Area study calls for the same intersection configuration with a second eastbound through lane by the year 2035.

Mitigation Measure #3.14.1-75: The intersection of Valentine and Clinton Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn (already existing);
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane, one through lane, and one right-turn lane; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

These improvements are identical to Mitigation Measure # 3.14.1-23. With implementation of this mitigation the intersection will operate at LOS D.

The West Area study recommends a traffic signal at the intersection of Valentine and Clinton Avenues for the year 2035 conditions. The lane configurations recommended above do not exceed the recommended street designations of the West Area study.

Mitigation Measure #3.14.1-76: The intersection of Grantland and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and two through lanes with a shared right turn; and
- Southbound: one left-turn lane and two through lanes with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-24.

The West Area study recommends a traffic signal at the intersection of Grantland and Shields Avenues for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study.

Mitigation Measure #3.14.1-77: The intersection of Bryan and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

As an alternative mitigation, the West Area study recommends a single-lane roundabout at the intersection of Bryan and Shields Avenues for the year 2035 conditions. With implementation of a single-lane roundabout, the intersection will operate at LOS C. These improvements are identical to Mitigation #3.14.1-25.

Mitigation Measure #3.14.1-78: The intersection of Hayes and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

As an alternative mitigation, the West Area study recommends a single-lane roundabout at the intersection of Hayes and Shields Avenues for the year 2035 conditions. With implementation of a single-lane roundabout, the intersection will operate at LOS D. The roundabout configuration is potentially constrained by existing single-family residences near the intersection. These improvements are identical to Mitigation #3.14.1-26.

Mitigation Measure #3.14.1-79: The intersection of Polk and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-27.

The West Area study recommends a traffic signal at the intersection of Polk and Shields Avenues for the year 2035 conditions. The lane configurations recommended above do not exceed the recommended street designations of the West Area study.

Mitigation Measure #3.14.1-80: The intersection of Cornelia and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane, one through lane, and one right-turn lane;
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

The southbound left-turn lane shall be lengthened to provide at least 200 feet of storage. These improvements are identical to Mitigation #3.14.1-28. With implementation of this mitigation the intersection will operate at LOS C.

The West Area study recommends a traffic signal at the intersection of Cornelia and Shields Avenues for the year 2035 conditions. The lane configurations recommended above do not exceed the recommended street designations of the West Area study.

Mitigation Measure #3.14.1-81: The intersection of Blythe and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

These improvements are identical to Mitigation Measure # 3.14.1-29. With implementation of this mitigation the intersection will operate at LOS D.

The West Area study recommends a traffic signal at the intersection of Blythe and Shields Avenues for the year 2035 conditions. The lane configurations recommended above do not exceed the recommended street designations of the West Area study.

Mitigation Measure #3.14.1-82: The intersection of Brawley and Shields Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and two through lanes with a shared right turn;
Westbound: one left-turn lane and two through lanes with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
Southbound: one left-turn lane, one through lane, and one right-turn lane (already existing).

With implementation of this mitigation the intersection will operate at LOS C. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-30.

The West Area study recommends a traffic signal at the intersection of Brawley and Shields Avenues for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study for the northbound and southbound approaches only. See Mitigation #3.14.1-110 for a description of Shields Avenue relative to the West Area study.

Mitigation Measure #3.14.1-83: The intersection of Valentine and Shields Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

Eastbound: one left-turn lane and two through lanes with a shared right turn;
Westbound: one left-turn lane and two through lanes with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-31.

The West Area study recommends a traffic signal at the intersection of Valentine and Shields Avenues for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study for the northbound and southbound approaches only. See Mitigation# 3.14.1-110 and 3.14.1-111 for a description of Shields Avenue relative to the West Area study.

Mitigation Measure #3.14.1-84: The intersection of the SR 99 southbound ramps and Shields Avenue/Parkway Drive will require substantial redesign and signalization to achieve minimum Caltrans levels of service. A two-lane roundabout shall be constructed with free right-turn lanes on the eastbound and southbound approaches. With construction of such a roundabout the intersection will operate at LOS C. This roundabout configuration is identical to that recommended in Mitigation Measure #3.14.1-32.

The West Area study recommends a roundabout at the intersection of the SR 99 southbound ramps and Shields Avenue/Parkway Drive but did not perform analysis of the intersection.

As an alternative mitigation, the intersection shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane, two through lanes, and one right-turn lane;
Westbound: one left-turn lane, two through lanes, and one right-turn lane;
Northbound: two left-turn lanes, one through lane, and one right-turn lane; and
Southbound: two left-turn lanes, two through lanes, and one right-turn lane.

Intersection improvements shall be constructed in accordance with Caltrans standards. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-85: The intersection of Grantland and Dakota Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and two through lanes with a shared right turn; and
Southbound: one left-turn lane and two through lanes with a shared right turn.

These improvements are identical to Mitigation #3.14.1-33. With implementation of this mitigation the intersection will operate at LOS C.

The West Area study recommends a traffic signal at the intersection of Grantland and Dakota Avenues for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study.

Mitigation Measure #3.14.1-86: All-way stop-sign control shall be installed with associated signing and striping at the intersection of Bryan and Dakota Avenues. These improvements are identical to Mitigation # 3.14.1-34. With implementation of this mitigation the intersection will operate at LOS C. A warrant study should be performed in accordance with City of Fresno standards and the CMUTCD prior to installation of stop signs to verify that all-way stop control has become warranted.

Mitigation Measure #3.14.1-87: The intersection of Grantland and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: two left-turn lanes, one through lane, and one right-turn lane;
- Westbound: one left-turn lane, one through lane, and one right-turn lane;
- Northbound: one left-turn lane and three through lanes with a shared right turn (already existing); and
- Southbound: one left-turn lane, two through lanes, and one right-turn lane.

These improvements are identical to Mitigation #3.14.1-35. With implementation of this mitigation the intersection will operate at LOS D.

These intersection configuration recommendations differ from the recommendations in the West Area study because the West Area study did not consider the Westlake Project access at Ashlan Avenue and because the existing configuration on the northbound approach as existing differs from the West Area study.

Mitigation Measure #3.14.1-88: The intersection of Bryan and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: one left-turn lane and two through lanes with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
- Southbound: one left-turn lane, two through lanes, and one right-turn lane (already existing).

The southbound left-turn lane shall be lengthened to provide at least 250 feet of storage. With implementation of this mitigation the intersection will operate at LOS C.

Mitigation Measure #3.14.1-89: The intersection of Hayes and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: one left-turn lane, two through lanes, and one right-turn lane;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-36.

The West Area study calls for the same intersection configuration, with the exception that it recommends a shared right turn on the westbound approach and a dedicated right-turn lane on the westbound approach in the year 2035 condition. Since the West Area study projects fewer westbound right turns in 2035 than were observed in the existing traffic counts, the dedicated westbound right-turn lane should be added to the West Area study configuration. The configuration recommended above will mitigate the 2030 cumulative impact.

Mitigation Measure #3.14.1-90: The intersection of Polk and Ashlan Avenues shall be signalized with protected left-turn phasing and the following minimum lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: one left-turn lane and two through lanes with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn (already existing); and
- Southbound: one left-turn lane and one through lane with a shared right turn (already existing).

The southbound left-turn lane shall be lengthened to provide at least 325 feet of storage. These improvements are identical to Mitigation #3.14.1-38. With implementation of this mitigation the intersection will operate at LOS D.

The West Area study calls for the same intersection configuration with a second northbound through lane and a second southbound through lane by the year 2035.

Mitigation Measure #3.14.1-91: The intersection of Cornelia and Ashlan Avenues shall be widened to provide a second westbound through lane. The westbound right turn may be shared with a through lane. The southbound left-turn lane shall be lengthened to provide at least 500 feet of storage. These improvements are identical to Mitigation #3.14.1-39. With implementation of this mitigation the intersection will operate at LOS D.

It should be noted that the West Area study recommends that the intersection of Cornelia and Ashlan Avenues be planned for fewer lanes than already exist, but it does call for the second westbound through lane recommended above.

Mitigation Measure #3.14.1-92: The intersection of Blythe and Ashlan Avenues shall be widened to provide a second westbound left-turn lane. The northbound left-turn lane shall be lengthened to provide at least 250 feet of storage and the southbound left-turn lane shall be lengthened to provide at least 350 feet of storage. These improvements are identical to Mitigation #3.14.1-40. With implementation of this mitigation the intersection will operate at LOS D. This mitigation exceeds the recommendations of the West Area study; however, there are already two receiving lanes existing on southbound Blythe Avenue. Therefore, the existing condition already exceeds the West Area study recommendations and accommodates this proposed mitigation.

Mitigation Measure #3.14.1-93: The intersection of Grantland Avenue and the extension of Gettysburg Avenue on the west side of Grantland Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one right-turn lane;
Westbound: Will not exist;
Northbound: one left-turn lane and two through lanes; and
Southbound: two through lanes with a shared right turn.

These improvements are identical to Mitigation #3.14.1-41. With implementation of this mitigation the intersection will operate at LOS C. This intersection was not recognized in the West Area study.

Mitigation Measure #3.14.1-94: The intersection of Grantland and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: one left-turn lane and one through lane with a shared right turn;
Westbound: one left-turn lane and one through lane with a shared right turn;
Northbound: one left-turn lane and one through lane with a shared right turn; and
Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-42.

The West Area study calls for the same intersection configuration with a second westbound through lane and a dedicated northbound right-turn lane by the year 2035.

Mitigation Measure #3.14.1-95: The intersection of Veterans Boulevard and Shaw Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

Eastbound: two left-turn lanes and two through lanes with a shared right turn;
Westbound: two left-turn lanes, two through lanes, and one right-turn lane;
Northbound: two left-turn lanes, two through lanes, and one right-turn lane; and
Southbound: two left-turn lanes, two through lanes, and one right-turn lane.

With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-43.

The West Area study recommends a traffic signal at the intersection of Veterans Boulevard and Shaw Avenue for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study.

Mitigation Measure #3.14.1-96: The intersection of Bryan and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and two through lanes with a shared right turn;
- Westbound: one left-turn lane and two through lanes with a shared right turn;
- Northbound: one left-turn lane and one through lane with a shared right turn; and
- Southbound: one left-turn lane and one through lane with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-44.

The West Area study recommends a traffic signal at the intersection of Bryan and Shaw Avenues for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study.

Mitigation Measure #3.14.1-97: The intersection of Hayes and Shaw Avenues shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: two through lanes with a shared right turn;
- Westbound: one left-turn lane and two through lanes;
- Northbound: one left-turn lane and one right-turn lane; and
- Southbound: Will not exist.

These improvements are identical to Mitigation #3.14.1-45. With implementation of this mitigation the intersection will operate at LOS B.

The West Area study calls for the same intersection configuration, with the exception that it recommends a shared left-turn/right-turn lane on the northbound approach. Considering that the West Area study projects as many as 170 northbound left turns and as many as 410 northbound right turns in 2035, and considering that the collector standard recommended by the West Area study includes enough width for a dedicated left-turn lane and a dedicated right-turn lane, the dedicated northbound left-turn and right-turn lanes recommended above should be added to the West Area study configuration.

Mitigation Measure #3.14.1-98: The intersection of Veterans Boulevard and Barstow Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: two left-turn lanes and one right-turn lane;
- Westbound: Will not exist;
- Northbound: one left-turn lane and three through lanes; and
- Southbound: three through lanes and one right-turn lane.

With implementation of this mitigation the intersection will operate at LOS B. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-46.

The West Area study recommends a traffic signal at the intersection of Veterans Boulevard and Barstow Avenue for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study.

Mitigation Measure #3.14.1-99: The intersection of Veterans Boulevard and Bryan Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: two left-turn lanes, one through lane, and one right-turn lane;
- Westbound: one left-turn lane, one through lane, and two right-turn lanes;
- Northbound: one left-turn lane, three through lanes, and one right-turn lane; and
- Southbound: two left-turn lanes, three through lanes, and one right-turn lane.

Overlapping right-turn phasing is required on the westbound and southbound approaches. With implementation of this mitigation the intersection will operate at LOS D. Similar, but not identical mitigation measures for signalization and widening are recommended in Mitigation Measure #3.14.1-47.

The West Area study recommends a traffic signal at the intersection of Veterans Boulevard and Bryan Avenue for the year 2035 conditions. The lane configurations recommended above conform to the street designations of the West Area study.

Mitigation Measure #3.14.1-100: The intersection of Veterans Boulevard and Gettysburg Avenue shall be signalized with protected left-turn phasing and the following lane configurations:

- Eastbound: one left-turn lane and one through lane with a shared right turn;
- Westbound: one left-turn lane and one through lane with a shared right turn;
- Northbound: one left-turn lane and two through lanes with a shared right turn; and
- Southbound: one left-turn lane and two through lanes with a shared right turn.

With implementation of this mitigation the intersection will operate at LOS C.

The West Area study recommends a traffic signal at the intersection of Veterans Boulevard and Gettysburg Avenue for the year 2035 conditions. The lane configurations recommended above do not exceed the street designations of the West Area study.

Mitigation Measure #3.14.1-101: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Veterans Boulevard and Ashlan Avenue. These improvements are identical to Mitigation #3.14.1-49. With implementation of this mitigation the road segment will operate at LOS D. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-102: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Ashlan Avenue and Dakota Avenue. These improvements are identical to Mitigation #3.14.1-50. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-103: Grantland Avenue shall be widened with a raised median and two through lanes in each direction between Dakota Avenue and Shields Avenue. These improvements are identical to Mitigation #3.14.1-51. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-104: Shaw Avenue shall be widened with a raised median and two through lanes in each direction between Veterans Boulevard and Bryan Avenue. These improvements are identical to Mitigation #3.14.1-53. With implementation of this mitigation the road segment will operate at LOS D. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-105: Shaw Avenue shall be widened with a raised median and two through lanes in each direction between Bryan Avenue and Hayes Avenue. These improvements are identical to Mitigation #3.14.1-54. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-106: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Bryan Avenue and Hayes Avenue. These improvements are identical to Mitigation #3.14.1-56. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-107: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Hayes Avenue and Polk Avenue. These improvements are identical to Mitigation #3.14.1-57. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-108: Ashlan Avenue shall be widened with a raised median and two through lanes in each direction between Polk Avenue and Cornelia Avenue. These improvements are identical to Mitigation #3.14.1-58. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-109: Ashlan Avenue has been constructed to its ultimate configuration with four lanes and a median between Blythe Avenue and Parkway Drive. The 2025 Fresno General Plan identifies this segment as constrained and accepts LOS F at this location. Therefore, widening this segment would be inconsistent with adopted City plans and there is no other identified mitigation measure that can reduce this impact to less than significant. This configuration conforms to the West Area study four-lane arterial designation.

Mitigation Measure #3.14.1-110: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Cornelia Avenue and Blythe Avenue. These improvements are identical to Mitigation #3.14.1-61. With implementation of this mitigation the road segment will operate at LOS D. This mitigation conforms to the West Area study three-lane collector designation.

Mitigation Measure #3.14.1-111: Shields Avenue shall be widened with a two-way left-turn lane and one through lane in each direction between Blythe Avenue and Brawley Avenue. These improvements are identical to Mitigation #3.14.1-62. With implementation of this mitigation the road segment will operate at LOS D. This mitigation conforms to the West Area study three-lane collector designation.

Mitigation Measure #3.14.1-112: Shields Avenue shall be widened to two through lanes in each direction between Brawley Avenue and Valentine Avenue. There is an existing median in the western half of this segment. However, the eastern half of this segment is not fully developed and may not be wide enough to accommodate a median. A median is not required to achieve acceptable LOS; however, left-turn lanes should be provided at major intersections. With implementation of this mitigation the road segment will operate at LOS C.

This mitigation differs from the West Area study three-lane collector designation but generally conforms to the 2025 Fresno General Plan designation of Shields Avenue as a four-lane arterial. It is noted that existing portions of this road segment are already constructed to a four-lane arterial configuration. The West Area study utilized only traffic modeling to study this segment of Shields Avenue and relied heavily on traffic counts west of the segment for model validation. The only traffic count utilized in the West Area study within a one-mile radius of this segment is the intersection of Clinton and Brawley Avenues. The only intersection studied on Shields Avenue in the West Area is the intersection of Shields and Hayes Avenues two miles to the west of the segment. This discussion is not intended to discredit the West Area study, but rather to provide support for recommending a mitigation that exceeds the requirements of the West Area study.

Mitigation Measure #3.14.1-113: Shields Avenue shall be widened to two through lanes in each direction between Valentine Avenue and Parkway Drive. A median is not required to

achieve acceptable LOS; however, left-turn lanes should be provided at major intersections. With implementation of this mitigation the road segment will operate at LOS C.

This mitigation differs from the West Area study three-lane collector designation but generally conforms to the 2025 Fresno General Plan designation of Shields Avenue as a four-lane arterial. It is noted that existing portions of Shields Avenue west of this segment are already constructed to a four-lane arterial configuration. The West Area study utilized only traffic modeling to study this segment of Shields Avenue and relied heavily on traffic counts west of the segment for model validation. The only traffic counts utilized in the West Area study within a one-mile radius of this segment are the intersection of Clinton and Brawley Avenues and the intersection of McKinley and Marks Avenues. The only intersection studied on Shields Avenue in the West Area is the intersection of Shields and Hayes Avenues 2.5 miles to the west of the segment. This discussion is not intended to discredit the West Area study, but rather to provide support for recommending a mitigation that exceeds the requirements of the West Area study.

Mitigation Measure #3.14.1-114: Veterans Boulevard shall be widened with a raised median and three through lanes in each direction between Shaw Avenue and Barstow Avenue. With implementation of this mitigation the road segment will operate at LOS C. This mitigation conforms to the West Area study six-lane super arterial designation.

Mitigation Measure #3.14.1-115: Veterans Boulevard shall be widened with a raised median and three through lanes in each direction between Barstow Avenue and Bryan Avenue. These improvements are identical to Mitigation #3.14.1-66. With implementation of this mitigation the road segment will operate at LOS D. This mitigation conforms to the West Area study six-lane super arterial designation.

Mitigation Measure #3.14.1-116: Veterans Boulevard shall be widened with a raised median and three through lanes in each direction between Bryan Avenue and SR 99. These improvements are identical to Mitigation #3.14.1-67. With implementation of this mitigation the road segment will operate at LOS D during the a.m. peak hour and LOS F during the p.m. peak hour. The 2025 Fresno General Plan identifies this segment as constrained and accepts LOS F at this location. Therefore, widening this segment would be inconsistent with adopted City plans and there is no other identified mitigation measure that can reduce this impact to less than significant. This mitigation conforms to the West Area study six-lane super arterial designation.

Mitigation Measure #3.14.1-117: The Project shall coordinate with the Central Unified School District to develop a school route plan for each elementary school served by the Project in accordance with the CMUTCD at each phase of development.

Mitigation Measure #3.14.2: An updated traffic study shall be provided by the developer as necessary in order that the most recent traffic impact study for the project is no older than 5 years prior to the recording date of any final map or the granting of a Conditional Use Permit. The timing of mitigation measures may be adjusted pursuant to a Development Agreement for the project and pursuant to subsequent amendments to a Development Agreement, based upon the updated traffic impact studies for the project.

Effectiveness of Mitigation: The mitigation measures that have been identified would improve most of the unacceptable operations to acceptable levels (except those that are identified as

constrained and accepted by the City as LOS F, as identified in mitigation measures: #3.14.1-59, #3.14.1-60, #3.14.1-67, #3.14.1-109, and #3.14.1-116). For these constrained road segments, the impact would be *significant and unavoidable*. Upon completion of mitigation measures #3.14.1 and #3.14.1-1 through #3.14.1-117 (with the exception of mitigation measures #3.14.1-59, #3.14.1-60, #3.14.1-67, #3.14.1-109, and #3.14.1-116), the impact would be reduced to a less than significant level by attaining acceptable levels of service. The payment of traffic fees as outlined in mitigation measure #3.14.1 is an accepted form of mitigation for traffic impacts under CEQA. Though the applicant will pay its fair share fee for the identified improvements, the City of Fresno cannot ensure that the improvements will be fully funded sufficient to facilitate construction prior to the project's contribution to the impact. If a proposed improvement is not fully funded and constructed before completion of the project, significant impacts to the intersection or roadway could occur until the City completes the improvements. Therefore, in accordance with the legal principles that underpin CEQA, the residual significance of this impact is *significant and unavoidable*.

Impact #3.14.2: 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.

[Evaluation Criteria (c)]

The project will not result in a change in air traffic patterns and is not near a public airport or private airstrip. There will be no tall structures or buildings constructed as a result of the project.

Conclusion: There is *no impact*.

Mitigation Measures: No mitigation measures are required.

Impact #3.14.3: Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).

[Evaluation Criteria (d)]

The proposed roadways within the project site and roadways connecting to the regional transportation system may increase hazards due to design features or incompatible land uses.

Conclusion: This impact is *potentially significant*.

Mitigation Measure #3.14.3: All roadways and access points shall be designed according to current City or County of Fresno roadway improvement standards, to the satisfaction of either or both the City or County Public Works Departments, depending upon jurisdiction.

Effectiveness of Mitigation: City and County of Fresno improvement standards are developed to minimize hazards due to design features or incompatible uses and implementation of the above mitigation measure would reduce the impact to *less than significant*.

**Table 3.14-14
Summary of Required Intersection Mitigation Measures**

Intersection	Existing Plus Project	Existing Plus Phase 1	Phases 1 - 3 (2016)	Full Build (2021)	2030
Grantland / Whitesbridge			2016-1 Signals and Widening	2021-1 Signals & Widening*	2030-1 Signals & Widening
Grantland / Belmont					2030-2 All-Way Stop
Grantland / Olive					
Grantland / McKinley					2030-3 All-Way Stop
Grantland / Clinton					
Bryan / Clinton					
Hayes / Clinton				2021-2 Single-Lane Roundabout	2030-4 Single-Lane Roundabout**
Polk / Clinton					2030-5 Roundabout (or Signals)
Cornelia / Clinton					2030-6 Signals & Widening
Blythe / Clinton					
Brawley / Clinton					
Valentine / Clinton	E-1 Signals and Widening			2021-3 Signals & Widening	2030-7 Signals & Widening**
Marks / Clinton					
Grantland / Shields	E-2 Widening			2021-4 Signals & Widening	2030-8 Signals & Widening
Bryan / Shields				2021-5 Single-Lane Roundabout	2030-9 Single-Lane Roundabout**
Hayes / Shields			2016-2 All-Way Stop	2021-6 Single-Lane Roundabout	2030-10 Single-Lane Roundabout**
Polk / Shields			2016-3 Widening	2021-7 Signals & Widening	2030-11 Signals & Widening
Cornelia / Shields				2021-8 Signals & Widening	2030-12 Signals & Widening**
Blythe / Shields			2016-4 Widening	2021-9 Signals & Widening	2030-13 Signals & Widening**
Brawley / Shields				2021-10 Signals & Widening	2030-14 Signals & Widening
Valentine / Shields			2016-5 Signals and Widening	2021-11 Signals & Widening*	2030-15 Signals & Widening
SR 99 SB ramps / Shields / Parkway				2021-12 Signals or Roundabout	2030-16 Signals or Roundabout
Westlake Loop / Southern Access					
Westlake Loop / Dakota (west)					
Westlake Loop / Dakota (east)					
Grantland / Dakota				2021-13 Signals & Widening	2030-17 Signals & Widening**
Bryan / Dakota				2021-14 All-Way Stop	2030-18 All-Way Stop**
Westlake Loop / Ashlan (west)					
Westlake Loop / Ashlan (east)					
Grantland / Ashlan	E-3 Signals and Widening		2016-6 Signals and Widening	2021-15 Signals & Widening	2030-19 Signals & Widening**
Bryan / Ashlan	E-4 Signals		2016-7 Signals #	2021-16 Signals & Widening	2030-20 Signals & Widening
Hayes / Ashlan	E-5 Signals and Widening		2016-8 Signals and Widening #	2021-17 Signals & Widening	2030-21 Signals & Widening
Polk / Ashlan	E-6 Signals and Widening		2016-9 Signals and Widening	2021-18 Signals & Widening	2030-22 Signals & Widening**
Cornelia / Ashlan	E-7 Widening		2016-10 Optimize Signal Timing	2021-19 Widening	2030-23 Widening**
Blythe / Ashlan				2021-20 Widening	2030-24 Widening**
Westlake Loop / Gettysburg Access					
Grantland / Gettysburg (West)	E-8 Signals and Widening			2021-21 Signals & Widening	2030-25 Signals & Widening**
Grantland / Shaw	E-9 Signals and Widening	E-1-1 All-way stop	2016-11 Signals and Widening	2021-22 Signals & Widening	2030-26 Signals & Widening
Veterans / Shaw				2021-23 Signals & Widening	2030-27 Signals & Widening
Bryan / Shaw	E-10 Widening		2016-12 Signals and Widening	2021-24 Signals & Widening*	2030-28 Signals & Widening
Hayes / Shaw			2016-13 Widening	2021-25 Signals & Widening	2030-29 Signals & Widening**
Veterans / Barstow				2021-26 Signals & Widening	2030-30 Signals & Widening
Veterans / Bryan				2021-27 Signals & Widening	2030-31 Signals & Widening
Veterans / Gettysburg					2030-32 Signals & Widening

2021 mitigation is identical to the Existing Plus Project Mitigation

* 2021 mitigation is identical to the 2016 mitigation

** 2030 mitigation is identical to the 2021 mitigation

**Table 3.14-15
Summary of Required Road Segment Mitigation Measures**

Road Segment	Existing Plus Project	Existing Plus Phase 1	Phases 1 - 3 (2016)	Full Build (2021)	2030
Grantland Avenue					
Shaw to Gettysburg	E-11 Widen to 4 lanes			2021-28 Widen 4 Lane + Median	
Gettysburg to Ashlan	E-11 Widen to 4 lanes			2021-29 Widen 4 Lane + Median	2030-33 Widen 4 Lane + Median**
Ashlan to Dakota	E-12 Widen 4 Lane + Median			2021-30 Widen 4 Lane + Median #	2030-34 Widen 4 Lane + Median**
Dakota to Shields				2021-31 Widen 4 Lane + Median	2030-35 Widen 4 Lane + Median**
Shields to Clinton					
Clinton to McKinley					
McKinley to Olive					
Olive to Belmont					
Belmont to Whitesbridge					
Bryan Avenue					
Shaw to Gettysburg					
Gettysburg to Ashlan					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Hayes Avenue					
Shaw to Gettysburg					
Gettysburg to Ashlan					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Polk Avenue					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Blythe Avenue					
Ashlan to Dakota					
Dakota to Shields					
Shields to Clinton					
Brawley Avenue					
Shields to Clinton					
Shaw Avenue					
Grantland to Veterans	E-13 Widen 4 Lane + Median		2016-14 Add LT Lanes	2021-32 Widen 4 Lane + Median #	
Veterans to Bryan	E-13 Widen 4 Lane + Median		2016-14 Add LT Lanes	2021-33 Widen 4 Lane + Median #	2030-36 Widen 4 Lane + Median**
Bryan to Hayes	E-14 Widen 4 Lane + Median		2016-15 Add LT Lanes	2021-34 Widen 4 Lane + Median #	2030-37 Widen 4 Lane + Median**
Ashlan Avenue					
Grantland to Bryan				2021-35 Widen 4 Lane + Median	
Bryan to Hayes	E-15 Widen 2 Lane + Median			2021-36 Widen 4 Lane + Median	2030-38 Widen 4 Lane + Median**
Hayes to Polk	E-16 Widen 2 Lane + Median			2021-37 Widen 4 Lane + Median	2030-39 Widen 4 Lane + Median**
Polk to Cornelia	E-17 Widen 4 Lane + Median		2016-16 Widen 4 Lane + Median	2021-38 Widen 4 Lane + Median #*	2030-40 Widen 4 Lane + Median**
Cornelia to Blythe				2021-39 No Feasible Mitigation	
Blythe to Parkway	E-18 No Feasible Mitigation			2021-40 No Feasible Mitigation #	2030-41 No Feasible Mitigation**
Dakota Avenue					
Grantland to Bryan					
Shields Avenue					
Grantland to Bryan					
Bryan to Hayes					
Hayes to Polk					
Polk to Cornelia					
Cornelia to Blythe				2021-41 Widen 2 Lane + TWLTL	2030-42 Widen 2 Lane + TWLTL**
Blythe to Brawley				2021-42 Widen 2 Lane + TWLTL	2030-43 Widen 2 Lane + TWLTL**
Brawley to Valentine			2016-17 Widen 2 Lane + TWLTL	2021-43 Widen 2 Lane + TWLTL*	2030-44 Widen 4 Lane
Valentine to Parkway				2021-44 Widen 2 Lane + TWLTL	2030-45 Widen 4 Lane
Clinton Avenue					
Grantland to Bryan					
Bryan to Hayes					
Hayes to Polk					
Polk to Cornelia					
Cornelia to Blythe				2021-45 Widen 2 Lane + Median	
Blythe to Brawley					
Brawley to Valentine					
Valentine to Marks					
Marks to Vassar					
Veterans Boulevard					
Gettysburg S. to Gettysburg N.					
Gettysburg N. to Shaw					
Shaw to Barstow					2030-46 Widen 6 Lane + Median
Barstow to Bryan				2021-46 Widen 6 Lane + Median	2030-47 Widen 6 Lane + Median**
Bryan to SR 99				2021-47 Widen 6 Lane + Median	2030-48 Widen 6 Lane + Median**

2021 mitigation is identical to the Existing Plus Project Mitigation

* 2021 mitigation is identical to the 2016 mitigation

** 2030 mitigation is identical to the 2021 mitigation

Impact #3.14.4: Result in inadequate emergency access.
[Evaluation Criteria (e)]

The proposed project has the potential to result in inadequate emergency access.

Conclusion: This impact is *potentially significant*.

Mitigation Measure #3.14.4: Proposed project site plans will be required to be reviewed by the City fire and police departments to ensure adequate emergency access.

Effectiveness of Mitigation: Implementation of Mitigation Measure #3.14.4 will reduce the impact to a *less than significant level*.

Impact #3.14.5: Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks).
[Evaluation Criteria (f) and (g)]

The City of Fresno Bikeway Master Plan identifies a planned bicycle lane along the proposed project site's easterly frontage (Grantland Avenue). The applicant will be subject to all City policies and regulations regarding inclusion of bike lanes and other facilities to support alternatives to automotive travel within the proposed development. Therefore, the proposed project does not conflict with adopted policies, plans or programs supporting alternative transportation.

Conclusion: This impact is *less than significant*.

Mitigation Measures: No mitigation measures are required.

3.15 Utilities

INTRODUCTION

This section describes the water, wastewater, storm drainage, and solid waste services provided in the proposed project vicinity and discusses potential environmental impacts related to provision of these services that could result from the proposed project. (It should be noted that water supply impacts and storm drainage impacts have been evaluated in Section 3.8 of this EIR).

3.15.1 REGULATORY AND PHYSICAL SETTING

Regulatory

FEDERAL

Clean Water Act

Section 303 of the Clean Water Act (CWA) requires states to adopt water quality standards for all surface waters of the United States. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. (See a description of State Porter-Cologne Water Quality Control Act, below.) Standards are based on the designated beneficial use(s) of the water body. Where multiple uses exist, water quality standards must protect the most sensitive use.

Section 402 of the CWA mandates that certain types of construction activity comply with the requirements of National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than 1 acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the SWRCB and implemented and enforced by the nine Regional Water Quality Control Boards (RWQCBs). The project site is within the boundaries of the Central Valley RWQCB.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) authorizes the United States Environmental Protection Agency to set national health-based standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally-occurring and manmade contaminants. These standards set enforceable maximum contaminant levels in drinking water and require methods for treating water to remove contaminants for all water providers in the United States except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 establishes a program to protect water quality and beneficial uses of state water resources and includes both groundwater and surface water. The SWRCB and the RWQCBs are the principal agencies responsible for control of water quality.

The Porter-Cologne Act authorizes the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the Clean Water Act Section 303, indicating that water quality standards have to be set for certain waters by adopting water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans for areas in the region, identifying water quality objectives, and issuing NPDES permits and Waste Discharge Requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. The Porter-Cologne Act was later amended to provide the authority delegated from the EPA to issue NPDES permits.

National Pollutant Discharge Elimination System (NPDES)

The CWA requires local jurisdictions to address the problems of pollutants in stormwater runoff from development. The CWA provides for the control of the discharge of any pollutant into navigable waters from any point sources. To regulate point source pollution, the CWA provides that the EPA may issue NPDES permits. NPDES permits are issued by the EPA or the states under EPA-approved permit programs that incorporate CWA's technological standards. California's NPDES permit program is implemented through SWRCB and the RWQCBs. Section 402(p) of the CWA establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES program, and requires controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods.

The RWQCBs implement the CWA's municipal storm water requirements through the State's Municipal Storm Water Permitting Program. While federal regulations allow the permitting options for storm water discharges (individual and general permits), the SWRCB has elected to adopt only one Statewide General Permit. In September 2009, the SWRCB adopted a new NPDES General Permit for the stormwater discharges associated with construction and land disturbance activities (No. 2009-0009-DWQ) that, among other things, requires compliance with certain numeric effluent limitations. This General Permit will become effective on July 1, 2010. It requires development of a site-specific SWPPP that specifies Best Management Practices (BMPs) that will prevent construction pollutants from contacting stormwater with the interest of keeping all products of erosion from moving offsite to receiving waters. This General Permit is implemented and enforced by the nine RWQCBs.

Waste Discharge Requirements

The State Water Resources Control Board (SWRCB) adopted Resolution 68-16 regarding a “Statement of Policy with Respect to Maintaining High Quality of Waters in California”. The SWRCB declared in this resolution that any activity that produces or could produce a waste or increased volume or concentration of waste will be required to meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to ensure a nuisance will not occur and that high water quality will be maintained for the benefit to the people of the state. These waste discharge requirements are administered by the Central Valley Regional Water Quality Control Board through Basin Plan Waste Discharge Requirements and apply to the wastewater treatment plant that will serve the proposed project site.

The Fresno-Clovis Metropolitan Regional Wastewater Reclamation Facility currently operates under Waste Discharge Requirements Order No. 5-01-254.

California Building Standards Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

California Urban Water Management Planning Act

The Urban Water Management Planning Act (California Water Code Sections 10610-10656) requires that all urban water suppliers prepare urban water management plans and update them every 5 years.

Senate Bill 221 and Senate Bill 610

Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amended state law to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that seek to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require that detailed information regarding water availability be provided to city and county decision-makers prior to approval of specific large development projects, and be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects. Both measures recognize local control and decision-making regarding the availability of water for projects and the approval of projects.

A Water Supply Assessment was prepared for the project and is included in its entirety as Appendix G.

2009 Comprehensive Delta/Water Legislation

In November 2009, the California legislature passed the comprehensive 2009 Delta/Water Legislation. The package consists of five bills, the content of which reflects the inextricable linkages between the health of the California Delta and California's statewide water supply management practices and policies. Pertinent components of this legislation include:

- Groundwater monitoring: Local water agencies will be required to monitor groundwater elevations throughout the state, and to provide the data to DWR. This bill addresses the need for consistent, reliable data—currently not measured at all, or measured with wide inconsistencies—on groundwater levels;
- Water conservation for urban and agricultural users: Between now and 2020, California must achieve a 20 percent drop in urban per capita water use across the state; and
- Water diversion and use reporting: The legislation sets out new requirements for the water diversion statements that must be filed by DWR.

Senate Bill X7-7

Senate Bill X7-7 was enacted on November 9, 2009 mandating water conservation targets and efficiency improvements for urban and agricultural water suppliers, respectively. There are 18 actions in this legislation for which the Department of Water Resources (DWR) is assigned as the lead agency. These actions have been designated by DWR as “projects” for implementation of the legislation.

The legislation requires that DWR implement certain provisions of the law through public processes. To meet this requirement, DWR has formed:

- An Urban Stakeholder Committee (USC); and
- An Agricultural Stakeholder Committee (ASC).

In addition, DWR is seeking public input through:

- Holding public workshops;
- Posting information on SB X7-7 Website;
- Convening a Commercial, Industrial, and Institutional (CII) Task Force with public process; and
- Rulemaking process.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. The legislation requires each local jurisdiction in the State to set diversion requirements of 25 percent in 1995 and 50 percent in 2000; establishes a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities; and authorizes local jurisdictions to impose fees based on the types or amounts of solid waste generated. In 2007, Senate Bill (SB) 1016, (Wiggins, Chapter 343, Statutes of 2008) introduced a new per capita disposal and goal measurement system which moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a per capita disposal rate factor. As such, the new disposal-based indicator (pounds per person per year) uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities. The City of Kerman's disposal rate goal is 3.7 pounds per person per year.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to (1) assure California utility customers safe, reliable utility service at reasonable rates; (2) protect utility customers from fraud; and (3) promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings

Title 24, Part 6, of the California Code of Regulations establishes California's Energy Efficiency Standards for Residential and Nonresidential Buildings. The standards were updated in 2005 and recently amended in 2008. The 2008 standards set a goal of reducing growth in electricity use by 561.2 gigawatt-hours per year (GWh/y) and growth in natural gas use by 19 million therms per year (therms/y). The savings attributable to new nonresidential buildings are 151.2 GWh/y of electricity savings and 3.3 million therms. For nonresidential buildings, the standards establish minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs.

Renewable Portfolio Standard Program [Senate Bill 1078]

Requires retail sellers of electricity to increase their purchases of electricity generated by renewable sources and establishes a goal of having 20% of California's electricity generated by renewable sources by 2017. In 2010, the California Air Resources Board (CARB) extended this target for renewable energy resource use to 33% of total use by 2020. Increasing California's renewable supplies will diminish the state's heavy dependence on natural gas as a fuel for electric power generation.

Local Government Construction and Demolition (C&D) Guide [Senate Bill 1374]

Seeks to assist jurisdictions with diverting their C&D material, with a primary focus on CalRecycle (formerly California Integrated Waste Management Board) developing and adopting a model C&D diversion ordinance for voluntary use by California jurisdictions.

LOCAL

City of Fresno General Plan

The City of Fresno establishes the following applicable goals, objectives, and policies related to utilities that are relevant to the project:

E-18-b Policy: Pursue enlargement or extension of the sewage collection system where necessary to serve planned urban development including the designated North and Southeast Growth Areas, with the capital costs and benefits allocated equitably and fairly between the existing users and new users while facilitating economic diversification. New users shall, to the extent not inconsistent with economic diversification strategies, pay for the cost of being attached to the collection system through connection fees, including the cost of any incremental burden that they may place on the entire system and pay for their share of operational and maintenance costs in addition to any costs for extraordinary facilities such as lift stations or capacity enhancement measures.

E-18-d. Policy Determine that adequate trunk sewer capacity exists or can be provided to serve proposed development prior to the approval of rezoning, special permits, tract maps, and parcel maps so that the capacities of existing facilities are not exceeded.

E20 Objective: Ensure the provision of adequate sewage treatment and disposal by utilizing the Fresno-Clovis Regional Wastewater Treatment and Reclamation Facility as the primary facility, when economically feasible, for all existing and new development within the metropolitan area.

E-20-a Policy: Provide increased wastewater treatment plant capacity in a timely manner to facilitate planned urban development within the facility's planned service area, and accommodate experienced increase in flows and loading from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users while facilitating economic diversification. New users shall, to the extent not inconsistent with economic diversification strategies, pay for the cost of being attached to the treatment facility through connection fees, including the cost of any incremental burden that they may place on the entire system and pay for their share of operational and maintenance costs in addition to any costs for extraordinary facilities such as satellite or "package" treatment plants.

E-20-d. Policy Monitor wastewater treatment plant flows and loadings to the extent feasible and consider the wastewater treatment impacts of land use changes when evaluating general plan amendment proposals.

E22 Objective: Manage and develop the City of Fresno’s water facilities to ensure a safe, economical, and reliable water supply for existing and planned urban development and economic diversification.

E-22-b. Policy: Set adequate and appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities are in place prior to occupancy.

E-22-e Policy: Capital improvement costs and benefits of new or upgraded water production and distribution facilities shall be allocated equitably and fairly between existing users and new users, consistent with economic diversification strategies.

E-22-f Policy: New development and connections to the City’s water supply and distribution system shall pay for the cost of being attached to the water system through connection fees and for the cost that they place on the entire water system including treatment, production, distribution, recharge and conservation and/or provide for the installation of public facilities and participate in capital improvement financing programs necessary to accommodate new development, consistent with economic diversification strategies.

E-22-l Policy: Evaluate new development proposals and entitlement activities in light of the conclusions and recommendations of the Fresno Metropolitan Water Resource Management Plan.

E-30-a. Policy: Support programs and new techniques of solid waste disposal such as recycling, composting, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.

E-30-b. Policy: Pursue programs to maintain conformance with AB 939, the Solid Waste Management Act of 1989, in order to comply with mandated diversion goals.

E-30-c. Policy: Expand community sanitation programs to provide neighborhood cleanup and nuisance abatement services throughout the metropolitan area including both incorporated and unincorporated areas.

G-1B-c Policy. Prioritize energy and water conservation through the following implementation measures, while maintaining public health and safety standards, utilizing the most current versions of the City’s Urban Water Management Plan and Metropolitan Water Resources Management Plan as source documents for data and for prioritizing actions:

(1) Within a reasonable period of time from adoption of General Plan Resource Element / Air Quality Objective G-1B, the City shall initiate a process to revise land use policies, ordinances, development standards and landscape/shading standards to incorporate appropriate water conservation, water recycling, and recharge measures into private and public project analysis and design (e.g., requiring installation of dual color-identified plumbing that would accommodate future use of recycled water for landscaping).

G-1B-d Policy: Maintain current levels of achievement for recycling and reuse of all types of waste material in the City, and further enhance waste and wastewater management practices to further achieve reductions in greenhouse gas emissions through implementation measures such as the following:

(1) The City shall continue to require provisions for recyclable material collection and storage areas to be incorporated into all residential development designs, and within one year from adoption of General Plan Resource Element / Air Quality Objective G-1B shall consider expanding this requirement to all industrial facilities, sizing the recycling area for industrial development according to the anticipated types and amounts of recyclable material generated.

G-1B-f Policy: The City shall continue to enhance landscaping, consistent with energy and water conservation principles.

(1) As additional technical information becomes available, the City shall evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.

West Area Community Plan

The proposed project is located within the area subject to the West Area Community Plan which contains policies that address utilities and service systems as follows:

W-2-a. Policy The design of public services shall be based on planned development intensity. Appropriate sizing criteria shall be determined for public facilities, based on population and land use designations with sufficient additional reserve capacity to provide a reasonable margin of safety for potential variations in population variations in population growth and intensity of use.

W-2-c. Policy Pursue the formation of a comprehensive city-managed funding program in the West Community Plan Area to provide needed public facilities (including, but not limited to streets sidewalks, sewer and water infrastructure, law enforcement substations, and parks) in the incorporated an unincorporated portions of the plan area.

This funding program may include one or more of the following:

- *Capital improvement assessment district(s), preferably comprehensive and multi-purpose;*
- *A modified Urban Growth Management (UGM) Ordinance;*
- *One or more Mello-Roos Districts, which could include funding for ongoing operation of services such as fire protection and law enforcement;*
- *Construction of self-limiting toll roads and/or bridges (where collection of tolls shall cease when construction debt is satisfied); and*

- *Pursuit of gas tax revenues, grants, and other funding sources for use in both incorporated and unincorporated areas where urban development is planned by the city.*

Elements of the above funding program would be applied, as appropriate, to areas with existing and planned urban development and densities as shown in city plans.

The funding program would not include areas shown on city plans for rural residential development, until such time as city plan amendments and/or entitlements are approved for more intensive development, or until such time as council approves a request by rural residential property owners to be fully or partially included in the funding program.

Owners of agricultural or rural residential property—incorporated or unincorporated—who are interested in participating in an assessment district shall be afforded this opportunity on an equitable pro rata basis.

Owners of agricultural or rural residential property who are not presently interested in pursuing more intensive development may opt out of an assessment district by deferring their assessments until such time as they opt in pursuant to obtaining approval of a subsequent plan amendment, rezoning, subdivision, or special permit. Any revenues received as a result of these later opt-in actions shall reduce the term of the obligation for assessed properties with regard to repayment of debt for capital improvements. If no change in use or subdivision is sought by owners of the subject rural residential or agricultural property during the repayment period for capital improvement debt that would have been applicable has been subsequently fully retired, that portion of the non-participating rural residential or agricultural property's obligation shall have expired and no repayment shall be due.

W-2-d. Policy Consider modifying Urban Growth Management policies to increase obligations for off-site improvements and to establish fees for additional needed public improvements. The following are additions to UGM requirements and fees:

- *Provision of law enforcement substations;*
- *Funding to purchase and improve community level parks;*
- *Provision of pedestrian walkways to allow access along major streets between new subdivisions and neighborhood schools;*
- *Provision of additional major street travel lanes (beyond the currently required two center lanes) when projected traffic volumes or safety conditions warrant; and*

- *Establishment of a service area and UGM fee for design and construction of planned overcrossings of Freeway 99 and for north-south traffic flow improvements within the West Area, including the Grantland Diagonal.*

City of Fresno-Clovis Storm Water Quality Management Program

The City's Storm Water Quality Management Program (SWQMP), adopted in 2005, is intended to implement and enforce a series of BMPs designed to reduce the discharge of pollutants from the municipal separate storm drain systems to the maximum extent practicable, to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act. These BMPs include public participation/involvement, construction site runoff control, illicit discharge detection and elimination, pollution prevention/good housekeeping, and post-construction runoff control. The SWQMP also provides a series of measurable goals that are used to gauge the objectives of the program.

City of Fresno – Sewer System Management Plan

On May 2, 2006, the State Water Resources Control Board (Board) issued Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The WDR is applicable to any entity (e.g., the City of Fresno) that owns or operates a collection system greater than one mile in length and consists of a number of components and reporting requirements. The purpose of the WDR is to establish system-wide operation, maintenance and management plans to reduce sanitary sewer overflows. A sanitary sewer overflow (SSO) is a release of untreated or partially treated wastewater resulting in public exposure, regardless of whether the wastewater reaches waters of the United States or not. It also refers to wastewater backups into buildings and onto private property that are caused by blockages in the City's portion of the sanitary sewer system. The City of Fresno adopted the Sewer System Management Plan (SSMP) in 2009 to address regulatory requirements established by the State Water Resources Control Board through its Order No. 2006-0003-DWQ. The SSMP provides a mechanism to properly manage, operate, and maintain all parts of the sanitary sewer system, with the ultimate goal being to reduce and prevent SSOs, as well as mitigate any SSOs that do occur.

City of Fresno Urban Water Management Plan

In accordance with the Urban Water Management Planning Act, as included in the California Water Code, Division 6, Part 2.6, every urban water supplier in California providing water for municipal purposes either directly or indirectly to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, is required to prepare and adopt an Urban Water Management Plan (UWMP). The City of Fresno's UWMP was adopted in August 2008 and provides information on the City's water supply planning.

Groundwater Management Plan

In 2006, the City, along with nine other agencies, adopted the Fresno Area Regional Groundwater Management Plan (FARGMP) in an effort to comply with AB 3030 and SB 1938. Along with the City, participating agencies included Fresno Irrigation District, Fresno

Metropolitan Flood Control District, City of Clovis, Malaga County Water District, City of Kerman, Bakman Water Company, County of Fresno, Pinedale County Water District, and Garfield Water District. The October 2005 Memorandum of Understanding between the participants makes it clear that each agency retains authority and responsibility for its service area. FID served as the lead agency in preparing the FARGMP and the FID boundary generally coincides with the FARGMP boundary. A small area northeast of FID is included. The objectives of the FARGMP include monitoring, protecting and sustaining the groundwater resources of the region. The objectives specifically include the following:

- Preserve and enhance the existing quality of the area's groundwater;
- Correct the overdraft and stabilize groundwater levels at the highest practical beneficial levels;
- Preserve untreated groundwater as the primary source of domestic water;
- Maximize the available water supply, including conjunctive use of surface water and groundwater;
- Conserve the water resource for long-term beneficial use and assure an adequate supply for the future;
- Manage groundwater resources to the extent necessary to ensure reasonable, beneficial, and continued use of the resource;
- Monitor groundwater quality and quantity to provide the requisite information for establishing groundwater policies, goals, and recommended actions; and
- Improve coordination and consistency among agencies responsible for the monitoring and management of groundwater in the Plan Area.

City of Fresno Municipal Code

The City of Fresno has adopted Urban Growth Management (UGM) ordinances and impact fee programs for providing water and wastewater utility services to UGM area development.

Fresno Metropolitan Flood Control District (FMFCD)

The FMFCD builds and operates the stormwater drainage and flood control system within its 398-square-mile service area, which includes the Cities of Fresno and Clovis, as well as some area east and northeast of those Cities. The FMFCD enforces the requirements of the MS4 NPDES permit for protecting stormwater quality and recharges local groundwater basins through its stormwater drainage retention basins. The FMFCD's Service Plan (2004) describes the District's plans and policies, including those regarding flood control, and Best Management Practices (BMPs) for the protection of stormwater quality.

The FMFCD completed its Storm Water Quality Management Plan in February 1999. The goal of the Plan is to protect the following water bodies from degradation by urban runoff: The Kings Groundwater Subbasin; the San Joaquin River and its tributaries; the District's retention basins; Fresno Irrigation District canals; and artificial lakes. The Plan contains BMPs grouped into six programs:

- Public Involvement and Education, regarding topics such as water quality and water conservation; wastewater; and solid waste and recycling;
- Illicit Discharge: illicit discharges include illicit connections to storm drains, and leaks and overflows from sanitary sewers. Illicit discharge BMPs consist of efforts to detect, control, and report illicit discharges;
- Structural Controls, which are devices for removing contaminants after they have entered runoff;
- Operations and Maintenance (of the District's storm drainage system and retention basins);
- Construction and Development, addressing both the construction and postconstruction phases of developments; and
- Commercial and Industrial.

In fulfillment of the Fresno Metropolitan Flood Control District Act of 1955, FMFCD developed a Storm Drainage and Flood Control Master Plan, approved in April 1999. This Master Plan is intended to provide a guide for coordination between land use planning and stormwater management. The following principals govern the development of the FMFCD Master Plan:

- The preparation of master storm water plans shall be coordinated with the specific land use entitlement entity (City/County);
- Storm drainage planning shall be done on a watershed basis;
- The storm drainage master planning that addresses urban type land uses should be in place when the first development entitlement, which begins the transition to urbanization, occurs;
- Storm drainage planning shall give consideration to overland flows associated with major storm events; and
- Adoption of the Master Plan for newly planned local drainage areas shall, when such adoption is to be taken apart from the adoption of the land use plan for such area, be done through noticed public hearing, such notice to include direct mailed notice to all affected properties.

Physical Setting (Existing)

POTABLE WATER

The City of Fresno Department of Public Utilities, Water Division provides potable water service within the city limits and to neighboring unincorporated areas. The potable water service area encompasses an area approximately of 110 square miles and a population of 502,657. The service area includes the entire area encompassed by its city limits and sphere of influence, including all lands planned to be annexed by the City by 2025, with the exception of lands served by the Bakman Water Company, Pinedale County Water District, Park Van Ness Mutual Water Company, California State University Fresno, and various county islands served by private groundwater wells.

Water Supply

The City's water supplies come from three primary sources: groundwater pumped from the Kings Subbasin, surface water from a contractual allocation of the Fresno Irrigation District's (FID's) Kings River entitlement, and surface water from the federal Friant Division Central Valley Project from the San Joaquin River. Each source is discussed below.

Groundwater

The City of Fresno obtains the majority of its delivered water supply from groundwater. The City lies within the Kings Subbasin of the San Joaquin Valley Groundwater Basin of the Tulare Lake Hydrologic Region. Although groundwater levels in the Subbasin have been in decline, the Kings Subbasin is not adjudicated, so there is no legislated limit on groundwater pumping. In general, groundwater levels in the Fresno area have declined about 1.5 feet per year since 1990, though there has been some localized rebounding in Northeast Fresno as a result of the reduction in groundwater extractions and the incorporation of a surface water treatment facility. The City's Urban Water Management Plan has identified projects that, if constructed and implemented, will bring the water supply into balance by 2025.

Through an agreement with the FMFCD and the Fresno Irrigation District (FID), the City utilizes its surface water entitlement to the extent possible to recharge its groundwater supplies, primarily at its Leaky Acres groundwater recharge facility, several FMFCD stormwater basins, and a few FID-owned groundwater recharge basins. During the summer and fall, the City's surface water entitlement is delivered via canals to the recharge basins, where it percolates through the soil to replenish groundwater. The City intends to balance extractions with recharge by the year 2025 through increasing its recharge efforts, increasing surface water treatment capacity, and enhancing its water conservation program.

Kings River

Prior to 2004, the City relied solely on groundwater for its supply. Through a 1976 agreement with FID, the City acquired a contractual allocation of FID's Kings River entitlement proportionate to agricultural lands that are annexed into the City provided that the land was formerly irrigated through FID's surface water entitlement.

The City's 1976 agreement with FID includes provisions for exchanging pumped groundwater from beneath the Fresno-Clovis Regional Wastewater Reclamation Facility that is discharged into FID's canals for irrigation purposes. For every 30,000 acre-feet pumped into the FID canals, the City is entitled to 46 percent or 13,800 acre-feet from FID's surface water entitlements. The City considers this a reliable water source but has not historically utilized the exchange.

San Joaquin River

The City also has a contract with the U. S. Bureau of Reclamation (USBR) for 60,000 acre-feet of Class I water from the San Joaquin River delivered through the Friant-Kern Canal that is operated and maintained by the Friant Irrigation District (FID). The USBR contract was recently renewed and extended until 2045. In years of average or lower-than-average water runoff, the City does not receive the entire contracted amount of 60,000 acre-feet.

Planned Water Supply Projects and Programs

There are no opportunities for the development of desalinated water in the City's service area. Transfer or exchange opportunities exist only to the extent they lie within the ability of FID to negotiate such transfers with other water rights holders on the Kings River or the USBR Friant system. In addition, the Kings Groundwater subbasin is currently overdrafted, and without planned new infrastructure and increased conservation it will continue to be overdrafted in order to meet the demands of the proposed project and the City's existing and planned uses. As stated above, the City is pursuing an aggressive approach to balance water supply and demand by the year 2025. The City is in the process of conducting a series of studies called the Fresno Metropolitan Water Resources Management Plan Update and has a current Urban Water Management Plan (UWMP). The studies address the current overdraft conditions, evaluate alternatives for expanding infrastructure, and establish an implementation plan. The current UWMP includes the following planned supply projects and programs:

- Expanding the City's water conservation program;
- Expanding the City's surface water treatment capacity;
- Continuing to use groundwater in coordination with expanding the City's intentional groundwater recharge program; and
- Developing a recycled water program for landscape irrigation use.

Water Conservation Program

The City currently has an extensive water conservation program in place, but at historic roughly 300 gallons per person per day, its per capita water consumption rate has remained relatively high when compared with other communities. The City has developed and is implementing a residential water meter installation plan scheduled to be completed in 2013, concurrently initiating a new rate structure for its metered connections to encourage conservation. The City anticipates a reduction in per capita use, based on its metering efforts, that will reduce

consumption to 257 gallons per capita per day. The City will strive to achieve an additional 5-plus percent reduction by 2020 by expanding existing, or introducing new, conservation programs. This would reduce per capita consumption to 243 gpcd.

Surface Water Treatment Plant

In 2004, the City completed construction of its first surface water treatment plant in northeastern Fresno. The surface water treatment plant has a capacity of 30 million gallons per day (MGD), and is planned to be expanded to accommodate 60 MGD. The UWMP also includes plans for construction of a southeast area surface water treatment plant.

Groundwater Recharge

In order to keep pace with groundwater pumping demands, the City will expand its intentional groundwater recharge efforts gradually over time to a planned recharge of 73,600 acre-feet per year by 2030. This increase will require better utilization of existing recharge basins and/or construction of additional recharge basins.

Recycled Water

The City of Fresno proposes to implement a Recycled Water Master Plan that identifies potential recycled water use opportunities within the City and its SOI, including Fresno County lands located in or adjacent to the Sphere of Influence (SOI). The Master Plan includes a program for the installation and operation of treatment, storage and distribution infrastructure to serve the proposed plan area with recycled water that would be implemented in a phased manner based on technical, funding, partnering, and other factors. The Master Plan includes the expansion of the City's recycled water system to reduce the use of percolation ponds that currently handle effluent discharge, to offset potable water use, and to enhance the sustainability of the water supply.

Water Balance

Table 3.15-1 (derived from the Urban Water Master Plan) summarizes the City's historical and projected water demands by land use designation through 2030.

**Table 3.15-1
Projected Water Demands***

Water Use Type	Projected Water Demands by Year (acre-feet)						
	2000	2005	2010	2015	2020	2025	2030
Single-Family Residential	85,900	83,400	89,700	98,900	109,300	119,700	124,300
Multi-Family Residential	21,800	22,600	23,300	25,600	28,300	30,900	32,100
South East Growth Area	—	—	6,700	13,300	20,000	26,800	32,100
Commercial/ Institutional	24,500	24,900	24,300	29,400	34,900	40,400	43,900
Industrial	4,100	4,000	3,800	5,100	6,400	7,800	8,800
Landscape Irrigation	4,600	6,900	6,900	7,100	7,500	7,800	7,800
Unaccounted For Water ¹	15,700	15,800	17,200	19,900	22,900	25,900	27,700
Total of All Uses Without Additional Conservation	156,600	157,600	171,900	199,300	229,300	259,300	276,700
Total of All Uses With Additional Conservation ²	156,600	157,600	163,300	189,300	206,400	233,400	249,000

Notes:

1 Unaccounted for water is the difference between recorded water production and metered consumption and includes water used for hydrant flushing, construction, firefighting system leaks, and water main breaks.

2 The City anticipates a 5 percent reduction in per capita use by 2010 increasing to 10 percent by 2020.

Source: City of Fresno, 2008

*Urban Water Master Plan, 2008

Projected normal water supply (including unaccounted for system losses) is shown in Table 3.15-2. The table shows that the City is able to meet long-term demand with a normal water supply.

**Table 3.15-2
Projected Normal Water Supply***

Supply/Demand	2010	2015	2020	2025	2030
Total Supply (acre-feet/year)	163,300	189,300	206,400	233,400	249,000
Total Demand (acre-feet/year)	163,300	189,300	206,400	233,400	249,000
Difference (acre-feet/year)	0	0	0	0	0

Source: City of Fresno, 2008

*Urban Water Master Plan, 2008

The City considers its supplies completely reliable during single-dry year events, making up reduced surface water supplies with groundwater. For dry or critically dry years, groundwater recharge will be reduced or eliminated, but groundwater stored in the basin will be sufficient to meet the City’s demands. The single-dry year comparison is shown in Table 3.15-3.

**Table 3.15-3
Single Dry Year Comparison***

Supply/Demand	2010	2015	2020	2025	2030
Total Supply (acre-feet/year)	163,300	179,100	175,400	203,300	222,400
Total Demand (acre-feet/year)	138,800	160,900	175,400	198,400	211,600
Difference (acre-feet/year)	24,500	18,200	0	4,900	10,800
Difference as percent of supply	15%	10%	0%	2%	5%
Difference as percent of demand	18%	11%	0%	2%	5%

Source: City of Fresno, 2008d.
*Urban Water Master Plan, 2008

The multiple dry year comparison is shown in five-year increments in Table 3.15-4. As with a single dry year event, the City considers its supplies reliable under this scenario, and even though supplies are reduced, demands are further reduced by the City incorporating its conservation measures.

**Table 3.15-4
Multiple Dry Year Comparison***

Supply/Demand	2015	2020	2025	2030
Total Supply (acre-feet/year)	179,100	175,400	203,300	222,400
Total Demand (acre-feet/year)	160,900	175,400	198,400	211,700
Difference (acre-feet/year)	18,200	—	4,900	10,700
Difference as percent of supply	10%	0%	2%	5%
Difference as percent of demand	11%	0%	2%	5%

Source: City of Fresno, 2008d.
*Urban Water Master Plan, 2008

Water Quality

Based on information contained in the City’s 2010 Annual Water Quality Report, the quality of water provided by the City of Fresno met all human health and safety standards for regulated primary contaminants, microbiological contaminants, and lead and copper. The levels of contaminants detected did not exceed the Maximum Contaminant Levels (MCL) established by the Environmental Protection Agency, with the exception of one well, PS 275, which exceeded MCL for Ethylene Dibromide (EDB). PS 275 is located in southeast Fresno near Kings Canyon and Fowler and had two results that exceeded the MCL of .05 ug/L in April 2010. The well was immediately turned off and a carbon changeout was scheduled. EDB is associated with petroleum refineries, underground gas tank leaks, and banned nematocides that may still be present in soils due to runoff and leaching from grain and fruit crops.

The EPA periodically requires utilities to conduct monitoring of unregulated contaminants such as Trichloropropane (1,2,3-TCP) which has been detected in 30 Fresno wells. The State of California has established a regulatory notification level of 0.005 ppb which is also the detection limit for reporting. At the request of the Department of Health Services in 2004, the City removed from service Well 63, located near McKinley and Chestnut, with levels exceeding the notification level. The City continues monitoring of all affected wells.

WASTEWATER

The City of Fresno Department of Public Utilities, Wastewater Management Division provides wastewater collection and treatment to the City of Fresno.

Collection

The wastewater collection system consists of a network of sewer pipes ranging from 6 to 84 inches in diameter. The collection system totals more than 1,400 miles of sewer lines and includes 15 lift stations.

Sewer pipes within the project vicinity consist of the Grantland Trunk located adjacent to the project site with pipe sizes in the range of 24 to 84 inches. The area surrounding the project site is designated as a growth development area indicating that sewer lines will need to be upgraded or installed to meet new growth. It should be noted that the 72" Grantland Avenue Trunk Sewer was recently completed to alleviate growing demands on the existing undersized trunk sewer system dedicated to delivering influent to the City of Fresno's waste water treatment plant from the Northwest Fresno area. The trunk sewer stretches 12 miles; it begins at Herndon Avenue and Cornelia Avenue, heads southwest along the future Veteran's Boulevard alignment to Grantland Avenue, then travels south in the Grantland Avenue alignment to Jensen Avenue and then east in Jensen Avenue to the Cornelia Avenue alignment. The project area will be served by a 24" sewer main on the Ashlan Avenue alignment and a 21" sewer main on the Dakota Avenue alignment, both connecting to the Grantland Avenue Trunk Sewer.

Fresno/Clovis Regional Water Reclamation Facility

Wastewater is treated at the Fresno/Clovis Regional Water Reclamation Facility (Water Reclamation Facility), located southwest of the City of Fresno near the intersection of Polk Avenue and Jensen Avenue, approximately 5.2 miles south of the project site. The Water Reclamation Facility provides wastewater treatment for the urbanized portion of the Fresno/Clovis metropolitan area in accordance with a Joint Powers Agreement between Fresno County, the City of Fresno, and the City of Clovis. Under the Joint Powers Agreement, the City of Fresno was designated as the operator of the plant.

The Water Reclamation Facility has a designed treatment capacity of 80 million gallons per day (mgd), and now has average dry weather flows of approximately 72 mgd. The facility treats effluent generated by both the cities of Fresno and Clovis.

Storm Drainage

The project site lies within the jurisdictional boundaries of the FMFCD. The FMFCD is responsible for planning, constructing, and maintaining the urban storm drainage collection and disposal facilities necessary to meet the needs of urban development, as well as to control runoff from areas outside the metropolitan area.

The project site is undeveloped and does not contain impervious surfaces. There are no existing storm drainage facilities within the project boundaries.

Solid Waste

The City of Fresno Department of Public Utilities, Solid Waste Division provides solid waste, recycling, and green waste collection services to residential customers within the city limits. Commercial solid waste collection is provided by Allied Waste Services and Mid Valley Disposal.

Landfill Capacity

The City of Fresno's solid waste is primarily landfilled at the American Avenue Landfill in Tranquility. The landfill is permitted to accept 2,200 tons per day and has a permitted capacity of 29.3 million cubic yards. The original closure date was 2031; however, due to enhanced recycling efforts, particularly on the part of the City of Fresno, the closure date has been extended to 2050. The current disposal rate at the Landfill is approximately 1,300 tons per day.

Recycling and Waste Reduction

The Solid Waste Division provides recycling collection of paper, cardboard, plastic, metal, glass, and small appliances. The Solid Waste Division also provides green waste pickup.

Waste Diversion

According to Senate Bill (SB) 1016, jurisdictions have been assigned a calculated target disposal rate in pounds/person/day. The target rate for the City of Fresno is 6.6 pounds/person/day. According to the 2010 Annual Report submitted to Cal Recycle, the actual disposal rate for the City of Fresno was 3.7.

Energy

Pacific Gas and Electric Company (PG&E) would provide electricity and natural gas service to the project site. The company has issued a "will serve" letter for the project (Appendix L). Below is a discussion of each energy source.

Electricity

PG&E provides electricity to all or part of 47 counties in California, constituting most of the northern and central portions of the State including Fresno County. In 2009, PG&E obtained 38 percent of its electricity supply from its own generation sources and the remaining 62 percent

from outside sources. PG&E-owned generating facilities include nuclear, natural gas, and hydroelectric, with a net generating capacity of more than 6,800 megawatts. Outside suppliers to PG&E include the California Department of Water Resources, irrigation districts, renewable energy suppliers, and other fossil fuel-fired suppliers. PG&E operates approximately 159,000 circuit miles of transmission and distribution lines. PG&E is interconnected with electric power systems in the Western Electricity Coordinating Council, which includes 14 western states; Alberta and British Columbia, Canada; and parts of Mexico. In 2009, PG&E delivered 88,127 gigawatt-hours of electricity to its customers.

Natural Gas

PG&E provides natural gas to all or part of 39 counties in California, (including Fresno County) comprising most of the northern and central portions of the State. PG&E obtains more than 70 percent of its natural gas supplies from western Canada and the balance from U.S. sources. It operates approximately 48,000 miles of transmission and distribution pipelines. In 2009, PG&E delivered 845 billion cubic feet (Bcf) of natural gas to its customers.

IMPACT EVALUATION CRITERIA

According to Appendix G of the CEQA Guidelines a project will normally be considered potentially significant if it will:

- 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 storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*
- d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.*
- e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.*
- f) *Be 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.*
- h) *Result in the inefficient, wasteful, or unnecessary consumption of energy?*

3.15.2 IMPACT ANALYSIS

Impact #3.15.1(a) - Exceed wastewater treatment requirements of the Regional Water Quality Control Board, Central Valley Region.

The Fresno-Clovis RWTRF has been expanded and rehabilitated several times over the past 40 years to meet discharge requirements and accommodate growth in the metropolitan area. The treatment plant’s design capacity is 80 MGD annual average, 160 MGD peak hour. Currently the facility receives, on average, 72 MGD. Assuming a design factor for treatment plant purposes of 130 gallons per capita per day, a base treatment capacity of 130 MGD would be necessary to serve the anticipated 790,000 metropolitan population for the year 2025.

The 2025 Fresno General Plan Master EIR stated that there is sufficient area at the treatment plant to accommodate the additional filters, clarifiers, and other equipment that will be necessary to increase the plant capacity from its present design flow 80 MGD. The Master EIR concluded that the impact would not be significant with implementation of treatment plant expansion.

Table 3.15-5 summarizes the proposed project’s estimated wastewater generation. The estimate is based on a most conservative assumption that wastewater generation represents 90 percent of water consumption. This assumption is conservative because outdoor irrigation represents a significant percentage of water consumption. As shown in the table, the proposed project would generate an estimated 1.0 million gallons of wastewater on a daily basis.

**Table 3.15-5
Wastewater Generation**

Annual Water Demand*	Daily Water Demand	Daily Wastewater Generation (90 percent of Daily Water Demand)
1,282 acre-feet	3.5+ acre-feet (1.14 million gallons)	1.0 million gallons

*Not including lake demand

The existing sewer mains adjacent to the project site are sized to accommodate land uses planned in the City of Fresno’s General Plan. As demonstrated in the WSA, the water demand for the proposed project will be less than the General Plan land use designations. Therefore based on the estimated wastewater generation being equal to 90 percent of water demand, the proposed project would generate less wastewater than buildout of the project site under the existing General Plan. The project area is served by the City’s Grantland trunk sewer line. The project will be responsible for construction of smaller sewer lines to connect to the project site and for its fair-share of payments for trunk fees; these fees will be collected pursuant to the City’s UGM policies. The Water Reclamation Facility has a design treatment capacity of 80 mgd and has current average dry weather flows of 72 mgd. The addition of 1.0 mgd to the average dry weather flow would represent a decrease in available treatment capacity; however, adequate capacity is available. The project is not anticipated to cause any violation of any existing permit because of the "typical" content - B.O.D. and suspended solids - of the waste discharge associated with the project. The proposed project will be required to pay its fair share of wastewater fees.

Conclusion: The impact is *less than significant*.

Mitigation Measure: No mitigation measures are required.

Impact #3.15.2(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.

As referenced in Section 3.8 – Hydrology and Water Quality, Impact #3.8.2 - the total water demand for the proposed project in accordance with the City of Fresno 2025 General Plan land use designations applicable to the site was included in the water demand projections of the adopted Urban Water Management Plan (UWMP). There is no evidence, in consideration of the calculated project water demand (see the Water Supply Assessment for the project, Appendix G), that such demand exceeds that estimated in the UWMP. In accordance with the findings of the UWMP it is concluded that the City of Fresno water system has sufficient capacity to supply the project and other projected demands within the City's service area through the year 2030 without substantially depleting groundwater supplies or causing other significant environmental effects.

As referenced in the Impact #3.15.1 discussion above, the 2025 Fresno General Plan Master EIR stated that there is sufficient area at the City's wastewater treatment plant to accommodate any additional filters, clarifiers, and other equipment that will be necessary to increase the plant capacity from its present 80 MGD design flow. The Master EIR concluded that the impact of projected City growth would not be significant with incorporation of treatment plant expansion mitigation.

Conclusion: Adherence to local, State and federal regulations and adopted City of Fresno plans and policies will result in a *less than significant impact* with regard to construction of new water or wastewater treatment facilities.

Mitigation Measure: No mitigation measures are required.

Impact #3.15.3(c) - Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The proposed project will increase impervious surface coverage on the project site. The increase in impervious surface coverage would create the potential for greater runoff. No detailed drainage plans have been prepared for the proposed project at the time of this writing. The project applicant will be required to prepare and submit a drainage plan that identifies drainage facilities that collect and impound runoff and ensure that it is released at a rate no greater than that of the pre-development condition of the project site.

The project proposes onsite detention of runoff in the project lake and the usage of a "downstream" drainage basin, which will need to be relocated outside the project boundaries (and possibly outside the City limits). Construction of the new drainage basin will be in accordance with FMFCD policies and regulations. Adherence to these policies and regulations will reduce potential storm drainage impacts from construction of the new basin to a less than

significant level (see EIR Section 3.8 for evaluation of any land use impacts). Additionally, the project will be required to pay any fair share of impact fees for drainage facilities.

Conclusion: Adherence to local, State and federal regulations, and policies of the General Plan, will result in a *less than significant* impact from the development of storm water drainage facilities.

Mitigation Measure: No mitigation measures are required.

Impact #3.15.4(d) - Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

As referenced in Section 3.8 – Hydrology and Water Quality, Impact #3.8.2 - the total water demand for the proposed project in accordance with the City of Fresno 2025 General Plan land use designations applicable to the site was included in the water demand projections of the adopted Urban Water Management Plan (UWMP). There is no evidence, in consideration of the calculated project water demand, that such demand exceeds that estimated in the UWMP (see the Water Supply Assessment for the project, Appendix G). In accordance with the findings of the UWMP it is concluded that the City of Fresno water system has sufficient capacity to supply the project's domestic and landscaping and other projected demands within the City's service area through the year 2030 without substantially depleting groundwater supplies or causing other significant environmental effects. The water demand of the lake amenity is proposed to be met with surface water in accord with a proposed, but not yet approved, agreement between the City and FID and by the storage of onsite storm drainage.

Conclusion: The impact is *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.15.5(e) – Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As referenced in Impact #3.15.1 above, the Fresno-Clovis RWTRF has been expanded and rehabilitated several times over the past 40 years to meet discharge requirements and accommodate growth in the metropolitan area. The treatment plant's design capacity is 80 MGD annual average, 160 MGD peak hour, and currently the facility receives, on average, 72 MGD. The project wastewater discharge to the RWTRF of 1.0 MGD will increase the estimated RWTRF flows to 73 MGD.

The 2025 Fresno General Plan Master EIR stated that there is sufficient area at the treatment plant to accommodate any additional filters, clarifiers, and other equipment necessary to increase the plant capacity from its present 80 MGD design flow. The Master EIR concluded that Master Plan fulfillment impact will not be significant with incorporation of treatment plant expansion mitigation.

Conclusion: The impact is *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.15.6(f) - Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

LANDFILL CAPACITY

The American Avenue Landfill is owned by Fresno County and would receive most of the project site's solid waste. It is estimated that the landfill will be able to continue operation until 2050 when it will be full and will have to be closed.

The 440-acre waste management facility consists of an unlined waste management unit covering 30 acres (Phase I) and a 160-acre composite-lined waste management unit (Phase II). It is proposed to expand the waste management facility by constructing Phase III (250 acres) upon completion of Phase II.

Solid waste generation by the project is estimated to be:¹

Residential:² 2,600 units @ 12.23 #/day = 33,358 #/day

Commercial:³ 333,000 ft @ .084 #/day = 27,972 # day

The total project solid waste generated by the project will thus be 30.6 tons per day. If the City's reported historic diversion rate of 56% is maintained, the project contribution to the landfill will be (.44 x 30.6), 13.5 tons per day.

The landfill has a maximum permitted disposal rate of 2,300 ton per day and a current disposal rate of 1,300 tons per day.

Conclusion: The impact (1%) is *less than significant*.

Mitigation Measures: No mitigation measures are required.

Impact #3.15.7(g) - Comply with federal, state, and local statutes and regulations related to solid waste.

Solid waste collection, recycling, transfer and landfill are regulated by the City of Fresno and by Fresno County Environmental Health Department (CalRecycle Local Enforcement Agency) in full compliance with Federal, State, and local regulation. There is no evidence to indicate that the project would either violate or engender a violation of these regulations. It is, therefore, not reasonably foreseeable that the project will create any solid waste impacts.

Conclusion: There is *no impact*.

¹ Source: CIWMB 2004

² Rate for single-family detached units. Some units are multifamily, which generate less solid waste per unit. Therefore, this is a conservative estimate

³ Rate for general office use. Other types of commercial uses, including retail, generate less solid waste per square foot. Therefore, this is a conservative estimate

Mitigation Measures: No mitigation measures are required.

Impact #3.15.8(h) – Result in the inefficient, wasteful, or unnecessary consumption of energy.

Pacific Gas and Electric (PG&E) would serve the proposed project with electricity and natural gas. Table 3.15-6 provides an estimate of the proposed project’s annual electricity. These figures were derived from energy consumption rates provided by the United States Energy Information Administration and the California Energy Commission. As shown in the table, the proposed project would annually use 18.89 GWh of electricity.

The project will be constructed in full compliance with Title 24, California's Energy Efficiency Standards for residential and non-residential buildings. The usage of energy for the 55 acre lake component of the project, pumping of storm water discharge to a ponding basin and pumping for lake drawdown for maintenance on a ten-year schedule, has been estimated to be (assuming a 15-foot head loss to the drainage basin) .0023_GWh per year, less than the energy which would be needed for lake-area development for single-family residential purposes 2.35 GWh (see Appendix M). Such low usage is assured by the availability and usage of current, modernized, design of pump motors for maximum efficiency.

**Table 3.15-6
Project Energy Demand**

Energy Source	Land Use (Quantity)	Annual Consumption Rate	Annual Consumption
Electricity	Single Family Residential (2,053)	5,626.5 kWh/unit-year	11.55 GWh
	Multifamily Residential (547)	5,626.5 kWh/unit-year	3.07 GWh
	Commercial (313,414 square feet)	13.63 kWh/square foot	4.27 GWh
Total Electricity	-	-	18.89 GWh

Notes:

kWh = kilowatt hour GWh = gigawatt hour

Sources: Electricity: www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/detailed_tables_2003.html, SCAQMDN 1993 CEQA Handbook, Table 9-11-A, residential electricity usage rate, Table E-1 from California Energy Commission. California Commercial End-Use Survey. Consultant Report. March 2006. CEC-400-2006-005 www.energy.ca.gov/2006publications/CEC-400-2006-005/CEC-400-2006-005.PDF

The proposed project’s structures would be designed in accord with or exceed the requirements of 2008 Title 24, California’s Energy Efficiency Standards for Residential and Nonresidential Buildings. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs. Such 2008 Title 24 standards will ensure that the project would not result in the inefficient, unnecessary, or wasteful consumption of energy.

The serving utility (for both electricity and natural gas) for the project has indicated by letter (see Appendix L) that it can serve the project's energy needs.

Conclusion: There is *a less than significant impact*.

Mitigation Measures: No mitigation measures are required.

3.16 Greenhouse Gas Emissions and Global Climate Change

INTRODUCTION

Briefly stated, climate change is a change in the average weather of the earth that may be measured by changes in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes that have occurred in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

Gases that trap heat in the atmosphere are greenhouse gases (GHGs). The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat trapping effect of GHG, the earth's surface would be about 34°C cooler (CAT 2006). However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

This section considers the greenhouse gas emission impacts of all land uses within the Westlake Development boundary and the proposed project's connection to global climate change, as well as climate change impacts on the project.

3.16.1 REGULATORY AND PHYSICAL SETTING

Regulatory

INTERNATIONAL

Climate change is a global issue involving greenhouse gas emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce greenhouse gases.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing

greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at average of 5 percent against 1990 levels over the five-year period 2008-2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

The United States has not approved implementation of the Kyoto Protocol. Other countries have: Australia, Canada, China, the European Union (Belgium, Denmark, Germany, the Hellenic Republic, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden, Great Britain, and Northern Ireland), Japan, Mexico, and New Zealand.

FEDERAL AND REGIONAL REGULATIONS AND INITIATIVES

The following are actions concerning the federal government, greenhouse gases, and fuel efficiency.

Greenhouse Gas Endangerment. Massachusetts v. EPA (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four greenhouse gases, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. In its opinion issued on April 2, 2007, the Supreme Court concluded that greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations; and
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing greenhouse gas emissions standards for vehicles, as discussed in the section “Clean Vehicles” below.

The EPA denied ten petitions for Reconsideration of the Endangerment and Cause or Contribute Findings in 2010. Some of the petitioners included the Ohio Coal Association, Peabody Energy Company, and the State of Texas.

In September 2011, the EPA Office of Inspector General evaluated the EPA's compliance with established policy and procedures in the development of the endangerment finding, including processes for ensuring information quality. The evaluation concluded that the technical support document should have had more rigorous EPA peer review.

In June 2012, a federal appeals court rejected a lawsuit by fifteen states against the EPA. The suit alleged that the EPA violated the law by relying almost exclusively on data from the United Nations Intergovernmental Panel on Climate Change rather than doing its own research or testing data according to federal standards. The states include Virginia, Texas, Alabama, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah. Virginia intends to petition the Supreme Court to review the case.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The EPA and the National Highway Safety Administration are working on a second-phase joint rulemaking to establish national standards for light-duty vehicles for model years 2017 and beyond.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up

to a 10 percent reduction in fuel consumption and carbon dioxide emissions by the 2018 model year.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires reporting of greenhouse gas emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation’s largest greenhouse gas emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new affected fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output-based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NO_x Budget Trading Program in the northeast. There is no federal cap and trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The **Regional Greenhouse Gas Initiative** is an effort to reduce greenhouse gases among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The **Western Climate Initiative partner** jurisdictions have developed a comprehensive initiative to reduce regional greenhouse gas emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Its cap and trade program is anticipated to be fully implemented in 2015.

CALIFORNIA

There has been significant legislative and regulatory activity that affects climate change and GHG in California, as discussed below.

Title 24. Although not originally intended to reduce greenhouse gases, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The 2008 standards became effective January 1, 2010. The requirement for when the 2008 standards must be followed is dependent on when the application for the building permit is submitted. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and K-14 school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The California Green Building Standards Code requires:

Water Efficiency and Conservation [Outdoor Water Use (4.304.1)]: Irrigation Controllers. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' watering needs as weather or soil conditions change; and
2. Weather-based controllers without integral rain sensors or communication systems that account for rainfall shall have a separate wired or wireless rain sensor, which connects or communicates with the controller(s).

Construction Waste Reduction of at least 50% (4.408.1): Recycle and/or salvage for reuse a minimum of 50% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4; OR meet a more stringent local construction and demolition waste management ordinance. Documentation is required per Section 4.408.5. Exceptions:

1. Excavated soil and land-clearing debris;
2. Alternate waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite; and
3. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

Materials pollution control (4.504.1 – 4.504.6): Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particleboard; and

Installer and Special Inspector Qualifications (702.1-702.2): Mandatory special installer inspector qualifications for installation and inspection of energy systems (e.g., heat furnace, air conditioner, mechanical equipment).

Pavley Regulations. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request, which begins with motor vehicles in the 2009 model year.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009-2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013-2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

Executive Order S-3-05. California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target. The Climate Action Team's Report to the Governor in 2006 contains recommendations and strategies to help ensure the 2020 targets in Executive Order S-3-05 are met.

Low Carbon Fuel Standard - Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low-Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

SB 1368. In 2006, the State Legislature adopted Senate Bill (SB) 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle

plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368.

SB 97. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states “(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a).” Section 21097 was also added to the Public Resources Code.

On April 13, 2009, OPR submitted to the Secretary for Natural Resources its recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions, as required by SB 97. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Amendments became effective on March 18, 2010.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “Greenhouse gases” as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the State agency charged with monitoring and regulating sources of GHG. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB approved the 1990 GHG emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO₂e) on December 6, 2007 (ARB 2007b). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “Business as Usual” scenario are estimated to be 596 MMTCO₂e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California (ARB 2007a). The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early

action measures, nine are considered discrete early action measures, as they are regulatory and enforceable as of January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO₂e by 2020, representing approximately 25 percent of the 2020 target.

The ARB approved the Climate Change Scoping Plan in December 2008 (ARB 2008). The Scoping Plan contains measures designed to reduce the State's emissions to 1990 levels by the year 2020. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. “Capped” strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. “Uncapped” strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.

SB 375. SB 375 was passed by the Senate on August 30, 2008 and was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, “Without improved land use and transportation policy, California will

not be able to achieve the goals of AB 32.” SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies. Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); or
3. Incorporates the mitigation measures required by an applicable prior environmental document.

Executive Order S-13-08. Executive Order S-13-08 indicates that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the order, in December 2009, the California Natural Resources Agency released its 2009 California Climate Adaptation Strategy (CNRA 2009). The Strategy is the “...first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

SB 1078, SB 107, and Executive Order S-14-08. On September 12, 2002, Governor Gray Davis signed a bill (SB 1078) requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020.

CEQA Guidelines Update. As required by SB 97, the Governor’s Office of Planning and Research prepared and transmitted recommended Amendments to the CEQA Guidelines for greenhouse gas emissions to the California Natural Resources Agency on April 13, 2009. After a public comment period, the Natural Resources Agency proposed revisions to the text of the Proposed Guidelines Amendments. The Natural Resources Agency provided additional public comment time on the revised text. The Natural Resources Agency adopted the CEQA Guidelines Amendments with minor, non-substantial changes.

The Natural Resources Agency transmitted the Adopted Amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. The Office of Administrative Law reviewed the Adopted Amendments and the Natural Resources Agency’s rulemaking file.

The Adopted Amendments were filed with the Secretary of State, and became effective March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of greenhouse gas emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. Importantly, however, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project’s estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project’s incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project’s cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation, and Appendix G, which includes the sample Environmental Checklist Form. The Checklist was also amended to include greenhouse gas questions, as identified in the Threshold section of this document.

REGIONAL

San Joaquin Valley Air Pollution Control District

The project is within the San Joaquin Valley Air Basin, which is under the jurisdiction of the SJVAPCD.

Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved a proposal called the Climate Change Action Plan (CCAP), to begin a public process to bring together stakeholders, land use agencies, environmental groups, and business groups, and conduct public workshops to develop comprehensive policies for CEQA guidelines and a carbon exchange bank, and voluntary GHG

emissions mitigation agreements for the Governing Board's consideration. The Climate Change Action Plan contained the following goals and actions:

Goals:

1. Assist local land-use agencies with CEQA issues relative to projects with greenhouse gas emissions increases.
2. Assist Valley businesses in complying with mandates of AB 32 (Global Warming Solutions Act of 2006).
3. Ensure that climate protection measures do not cause increases in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions:

1. Authorize the Air Pollution Control Officer to develop greenhouse gas significance threshold(s) or other mechanisms to address CEQA projects with greenhouse gas emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
2. Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary greenhouse gas reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.
3. Authorize the Air Pollution Control Officer to enhance the District's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the District and the state of California with minimal duplication.
4. Authorize the Air Pollution Control Officer to develop and administer voluntary greenhouse gas emission reduction agreements to mitigate proposed greenhouse gas increases from new projects.
5. Direct the Air Pollution Control Officer to support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

SJVAPCD CEQA Greenhouse Gas Guidance

On December 17, 2009, the SJVAPCD Governing Board adopted: "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the policy: "District Policy - Addressing GHG Emission Impacts for Stationary Source Projects

Under CEQA When Serving as the Lead Agency.” The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The SJVAPCD’s approach is intended to streamline the process of determining if project specific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified Final CEQA document.

Best Performance Standards (BPSs) would be established according to performance-based determinations. Projects complying with any District-adopted Best Performance Standards are not to require specific quantification of GHG emissions and thus would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPSs thus require quantification of GHG emissions and demonstration that GHG emissions have been reduced or mitigated by 29 percent, as targeted by ARB’s AB 32 Scoping Plan to be considered to have a less than significant impact on climate change. Furthermore, quantification of GHG emissions are then required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates Best Performance Standards.

San Joaquin Valley Carbon Exchange

The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. To investigate the various issues concerning the development of a mechanism to register GHG emission reductions, the SJVAPCD formed a technical workgroup consisting of SJVAPCD staff, land use agency representatives, industry representatives, agricultural representatives, environmental group representatives, and other interested parties. The workgroup met several times in public meetings during late 2008 and early 2009 to discuss several areas of concern regarding a GHG emission reduction registration program, including:

- The differences between the upcoming AB 32 cap-and-trade program and a GHG emission reduction registration program;
- Potential uses of registered GHG emission reductions. Registered GHG emission reductions could possibly be used to provide mitigation in the CEQA process, as a means to comply with a GHG cap-and-trade program, or other purposes;

- A review of other GHG emission reduction registration programs currently in existence, including the Chicago Climate Exchange, New York Climate Exchange, Northeast Climate Exchange, Climate Action Reserve, and South Coast Air Quality Management District's SoCal Climate Solutions Exchange;
- Required elements of a District-administered GHG emission reduction registration program, including the establishment of criteria for GHG emission reduction registration, the use of ARB protocols, and the requirement to quantify some emission reductions;
- The advantages and disadvantages of development of a GHG emission reduction registration program; and
- Alternatives to the development of a District-administered GHG emission reduction registration program were discussed; including the District's possible role in California Climate Action Reserve as an emission reduction project verifier and/or providing technical assistance to project proponents quantify and mitigate their projects GHG emissions as part of the CEQA process.

Rule 2301

While the Climate Change Action Plan indicated that the greenhouse gas emission reduction program would be called the San Joaquin Valley Carbon Exchange, the District incorporated a method to register voluntary greenhouse gas emission reductions into its existing Rule 2301-Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary greenhouse gas emission reductions for later use;
- Provide an administrative mechanism for sources to transfer banked greenhouse gas emission reductions to others for any use; and
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked greenhouse gas emission reductions are real, permanent, quantifiable, surplus, and enforceable.

Fresno County Council of Governments

The Fresno Council of Governments (Fresno COG) is the Regional Transportation Planning Agency (RTPA) for the Fresno County region, a designation given by the State of California. Under federal legislation, it is also designated as the Metropolitan Planning Organization (MPO).

Fresno COG's primary functions are transportation planning and programming. As a state-designated RTPA and federally-designated MPO for Fresno County, Fresno COG must comply with both designation requirements.

Fresno COG prepares a Regional Transportation Plan (RTP) that looks 25 years into the future, and sets policies for a wide variety of transportation options and projects. It guides how and where people and goods will travel by identifying both existing and needed transportation facilities.

Fresno COG prepares the region's Federal Transportation Improvement Program, a four-year program of financially constrained transportation projects consisting of highway, transit, bicycle, and pedestrian projects that are selected through an approved project selection process.

Fresno COG is required to document that transportation programs, plans, and projects are consistent with, or "conform" to the state and federal plans to protect air quality. Thus, transportation planning involves not only Fresno County agencies, but the local Air District, the other seven counties, as well as state and federal agencies.

2014 Regional Transportation Plan

The Fresno COG is in the process of preparing the 2014 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). The 2014 RTP is a planning document to be developed by Fresno COG in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the California Department of Transportation (Caltrans), and other stakeholders, including transportation system users.

Following the passage of Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006, which specifies that by the year 2020, greenhouse gas (GHG) emissions within the State must be at 1990 levels, Senate Bill 375 (SB 375) – The Sustainable Communities and Climate Protection Act of 2008 was signed into law as the framework for achieving greenhouse gas emissions reductions from land use and transportation planning.

SB 375 includes four primary findings related to the RTP/SCS development process:

- That the ARB develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Fresno COG;
- That the Fresno COG, during the next RTP update is required to prepare an SCS that specifies how the GHG emission reduction target set by ARB will be achieved. IF the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Fresno COG;
- Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Fresno County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target; and
- Requires that Fresno COG conduct the Regional Housing Needs Assessment (RHNA) process consistent with the RTP/SCS process and that the RHNA allocations be consistent with the development pattern in the SCS.

Although the 2014 RTP/SCS specifically targets GHG emission reductions, strategies that reduce GHG emissions have the co-benefit of also reducing criteria air pollutants.

San Joaquin Valley Regional Blueprint

In early 2006 the eight Councils of Governments in the San Joaquin Valley came together in an unprecedented effort to develop a coordinated valley vision – the San Joaquin Valley Regional Blueprint. This eight county venture is being conducted in each county, and has recently been integrated to form a preferred vision for future development throughout the Valley to the year 2050.

On April 1, 2009 the San Joaquin Valley (SJV) Regional Policy Council reviewed the Valley COGs' collaborative work on the Blueprint and took the following actions:

- Adopted a list of Smart Growth Principles to be used as the basis of Blueprint planning in the San Joaquin Valley; and
- Adopted Scenario B+ as the Preferred Blueprint Growth Scenario for the San Joaquin Valley to the year 2050. This preferred scenario will serve as guidance for the Valley's local jurisdictions with land use authority as they update their general plans.

LOCAL

City of Fresno

The City of Fresno is the local government with the authority over land-use decisions for this project. The project is covered by the City of Fresno General Plan and the West Area Community Plan. The Community Plan is subordinate to the City of Fresno General Plan.

City of Fresno General Plan

In response to Assembly Bill (AB) 170 requirements, the City of Fresno amended its 2025 Fresno General Plan Resource Conservation Element/Air Quality and Global Climate Change Section by adopting Plan Amendment No. A-09-02 in June 2009. This plan amendment adopted objectives, policies, and new MEIR mitigation measures. Many of the MEIR measures are part of a city-wide program and will be imposed as mitigation measures on this project pursuant to City policy; the following General Plan policies are specifically applicable to the project:

- **Objective G-1B.** In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take timely and necessary actions to achieve and maintain reductions in greenhouse gas emissions in order to limit and prevent potential human-caused global climate change and the related potential detrimental affects upon public health and welfare of present and future residents of the community.

- **Policy G-1B-a.** Establish and uphold planning criteria and environmental analysis protocols that evaluate potential greenhouse gas (GHG) emissions from public and private projects and provide useful reduction and mitigation strategies through implementation measures including the following:

(1) When reviewing private and public projects, City departments shall incorporate global climate change analysis and mitigation measures as prescribed by the updated Public Resources Code Sections and CEQA Guidelines promulgated under provisions of Senate Bill 97 (2007), and shall utilize thresholds of significance or applicable alternative analysis strategies (such as qualitative application of performance standards), adopted by the San Joaquin Valley Unified Air Pollution Control District, the California Office of Planning and Research, and the California Environmental Protection Agency. After the Office of Planning and Research adopts revisions to the California Environmental Quality Act Guidelines and processes to assess global climate change, the City shall consider amendments to Fresno Municipal Code Chapter 12, Article 5, the Environmental Quality Ordinance of the City of Fresno.

- **Policy G-1B-b.** Increase efforts to incorporate GHG emission reductions in land use decisions, facility design, and operational measures subject to City regulation through implementation measures such as the following:

(4) The City shall utilize guidance from the Institute for Local Government (refer to General Plan Appendix I), California Attorney General's Office (refer to General Plan Appendix J), California Air Pollution Control Officers Association (refer to the 2008 CEQA and Climate Change publication and its updates), and other sources of technical guidance in determining appropriate and feasible mitigation measures which may be incorporated into land use plans, development projects and City operations to achieve GHG emission reductions.

(6) In order to prevent possible increases in vectorborne illnesses that may be associated with global climate change, the City shall incorporate its "Guidelines for Ponding Basin / Pond Construction and Management to Control Mosquito Breeding" as conditions of approval on any project which utilizes an on-site stormwater basin.

- **Policy G-1B-c.** Prioritize energy and water conservation through the following implementation measures, while maintaining public health and safety standards, utilizing the most current versions of the City's Urban Water Management Plan and Metropolitan Water Resources Management Plan as source documents for data and for prioritizing actions:

(1) Within a reasonable period of time from adoption of General Plan Resource Element / Air Quality Objective G-1B, the City shall initiate a process to revise land use policies, ordinances, development standards and landscape/shading standards to incorporate appropriate water conservation, water recycling, and recharge measures into private and public project analysis and design (e.g., requiring installation of dual color-identified plumbing that would accommodate future use of recycled water for landscaping).

- **Policy G-1B-d.** Maintain current levels of achievement for recycling and reuse of all types of waste material in the City, and further enhance waste and wastewater management practices to further achieve reductions in greenhouse gas emissions through implementation measures such as the following:

(1) The City shall continue to require provisions for recyclable material collection and storage areas to be incorporated into all residential development designs, and within one year from adoption of General Plan Resource Element / Air Quality Objective G-1B shall consider expanding this requirement to all industrial facilities, sizing the recycling area for industrial development according to the anticipated types and amounts of recyclable material generated.

- **Policy G-1B-f.** The City shall continue to enhance landscaping, consistent with energy and water conservation principles.

(1) As additional technical information becomes available, the City shall evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.

Physical Setting (Existing)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Constituent gases of the earth’s atmosphere called greenhouse gases play a critical role in the earth’s radiation budget by trapping infrared radiation emitted from the earth’s surface, which would otherwise have escaped into space. This phenomenon, known as the “Greenhouse Effect,” is responsible for maintaining a habitable climate. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations, leading to a trend of unnatural changes to the earth’s natural climate, known as global warming or climate change.

Greenhouse gases are global pollutants, unlike ozone, carbon monoxide, particulate matter, and toxic air contaminants, which are pollutants of regional and local concern.

POTENTIAL ENVIRONMENTAL EFFECTS

The United Nations Intergovernmental Panel on Climate Change (IPCC) has declared that worldwide, average temperatures are likely to increase by approximately 3°F to 7°F by the end of the 21st century. However, a global temperature increase does not translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the IPCC’s Working Group II Report website, climate change impacts to North America may include diminishing snowpack, increasing

evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations.

In California, as discussed in a report prepared by the California Climate Change Center in 2006 and a report by Moser et al (2009), climate change may result in consequences such as the following.

- A reduction in the quality and supply of water to the State from the Sierra snow pack. If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- Increased risk of large wildfires. If precipitation increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are expected to increase by approximately 30 percent toward the end of the century because more winter rain will stimulate the growth of more plant “fuel” available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Reductions in the quality and quantity of certain agricultural products. Crops that are likely to be hard hit include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today’s conditions. This is more than twice the increase expected if temperature rises are kept in the lower warming range.
- A rise in sea levels resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California’s coast have risen about 7 inches. If heat-trapping emissions continue unabated and temperatures rise into the higher warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- Damage to marine ecosystems and the natural environment.
- An increase in infections, disease, asthma, heat stroke/exhaustion, heart attack, stroke, and other health-related problems.
- A decrease in the health and productivity of California’s forests.

Although certain environmental effects are widely accepted to be a potential hazard to certain locations, such as rising sea level for low-lying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location.

GREENHOUSE GAS EMISSIONS INVENTORY AND TRENDS

In 2006, total worldwide greenhouse gas emissions were estimated by the United Nations Framework Convention on Climate Change to be 22,170 million metric tons of carbon dioxide equivalent (MMTCO₂e). Emissions in the U.S. were estimated to be 7,054.4 MMTCO₂e.

California is the second-largest contributor in the U.S. of greenhouse gases and the sixteenth largest in the world. In 2009, California produced 456 MMTCO₂e. The largest source of greenhouse gases in California is transportation, contributing 38 percent of the State's total greenhouse gas emissions. Electricity generation is the second-largest source, contributing 23 percent of the State's greenhouse gas emissions. The inventory for California's greenhouse gas emissions between 2003 and 2009 is presented in Table 3.16-1.

**Table 3.16-1
California Greenhouse Gas Emissions Inventory 2003-2009**

Main Sector*	Emissions MMTCO ₂ e						
	2003	2004	2005	2006	2007	2008	2009
Agriculture	30.67	32.34	32.61	33.75	32.91	33.68	32.13
Forestry	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Commercial and Residential Fuel Use	41.32	42.67	41.04	41.66	41.92	41.54	42.95
Electricity Generation (Imports)	64.55	66.02	62.80	54.68	59.80	65.82	48.05
Electricity Generation (In State)	49.14	50.24	46.21	51.04	55.28	55.40	55.53
Industrial	91.58	93.49	92.75	92.31	89.78	87.09	81.36
Recycling and Waste	6.71	6.68	7.00	7.09	7.06	7.26	7.32
High GWP Gases	12.59	13.34	13.88	14.54	14.81	15.77	16.32
Transportation	179.39	183.18	186.07	186.64	187.08	177.97	172.92
Total	476.14	488.16	482.54	481.89	488.83	484.72	456.77

Source: California Air Resources Board, 2011

GREENHOUSE GASES

Gases that trap heat in the atmosphere are greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. Without the natural heat trapping effect of greenhouse gases, the earth's surface would be about

34°C cooler. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

An individual project cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed project may participate in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on global climate change. Because these changes may have serious environmental consequences, this section will evaluate the potential for the proposed project to have a significant effect upon California's environment as a result of its potential contribution to the enhanced greenhouse effect.

The global warming potential is one type of simplified index based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases upon the climate system in a relative sense. Global warming potential is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of carbon dioxide, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of carbon dioxide.

The EPA defines global warming potential as the “cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas,” the reference gas in this case being CO₂.

The global warming potential of a gas is essentially a measurement of the greenhouse gas compared with the reference gas, carbon dioxide; carbon dioxide has a global warming potential of one. The greenhouse gases of concern from the project are summarized in Table 3.16-2.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various emissions to a consistent metric. Methane's warming potential of 21 indicates that methane has a 21 times greater warming effect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential.

Water Vapor

Water vapor (H₂O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to hold more water when it is warmer), leading to more water vapor in the atmosphere. The warmer atmosphere can then hold more

water vapor and so on and so on. This is referred to as a positive feedback loop. The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth’s surface and heat it up). There are no health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

**Table 3.16-2
Greenhouse Gases**

Greenhouse Gas	Description and Physical Properties	Sources
Water vapor	Water vapor is the most abundant, important, and variable greenhouse gas. In the atmosphere, it maintains the climate necessary for life.	Sources include evaporation from the ocean and other water bodies, sublimation of ice and snow, and transpiration from plants.
Ozone (O ₃)	Ozone is a short-lived local greenhouse gas and photochemical pollutant. Tropospheric ozone changes contribute to radiative forcing on a global scale. Global warming potential for short-lived greenhouse gases, such as ozone and aerosols, are not defined by the IPCC.	Ozone is formed from reactions of ozone precursors (nitrogen oxides [NO _x] and volatile organic compounds [VOC]) and sunlight in the atmosphere. VOC and NO _x are emitted from automobiles, solvents, and fuel combustion.
Aerosols	Aerosols are particulate matter suspended in the air. They are short-lived and remain in the atmosphere for about a week. Aerosols warm the atmosphere by absorbing heat and cool the atmosphere by reflecting light, with radiative forcing cooling effects of -1.2 Wm^{-2} . There is a low scientific understanding of the radiative forcing of individual aerosols, such as black carbon. Black carbon can cause warming from deposition on snow ($+0.1 \text{ Wm}^{-2}$) and from suspensions in air ($+0.2 \text{ Wm}^{-2}$). A global warming potential of 761 for black carbon has been identified in a journal article. Global cooling potentials for other aerosols in a metric similar to the global warming potential are not available.	Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning and incomplete combustion of fossil fuels (such as diesel fuel).
Methane	Methane (CH ₄) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, decay of organic matter, and cattle.

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide is also known as laughing gas and is a colorless greenhouse gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960. Carbon dioxide from fossil fuels contributed 81 percent of greenhouse gas emissions in 2004 in California.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chloro-fluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Hydro-fluorocarbons	Hydrofluorocarbons are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Per-fluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.

Source: Compiled from a variety of sources, including EPA 2006 and IPCC 2007.

Carbon Dioxide

Carbon dioxide (CO₂) is an odorless and colorless greenhouse gas. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include the burning of coal, oil, natural gas, and

wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases greenhouse gas emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by the year 2100 as a direct result of anthropogenic emission sources.

Methane

Methane (CH₄) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10 to 12 years), compared with other greenhouse gases. No health effects are known to occur from exposure to methane. Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil fuel combustion and biomass burning.

Nitrous Oxide

Nitrous oxide (N₂O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's lesions (brain damage). Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition, to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, for instance, in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.

Chlorofluorocarbons

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C₂H₆) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation. CFCs have no natural source, but were first synthesized in 1928. They

were used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of the three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF₃), HFC-134a (CF₃CH₂F), and HFC-152a (CH₃CHF₂). Prior to 1990, the only significant emissions were of HFC-23. The EPA estimates that concentrations of HFC-134a emissions are increasing because of its use as a refrigerant. The EPA also estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are man-made for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur approximately 60 kilometers (37.5 miles) above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF₄) and hexafluoroethane (C₂F₆). The EPA estimates that concentrations of CF₄ in the atmosphere are over 70 ppt. No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride

Sulfur hexafluoride (SF₆) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest global warming potential of any gas evaluated (23,900). The EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

MODELING PARAMETERS AND ASSUMPTIONS

Model Selection

The California Emissions Estimator Model (CalEEMod) was used to quantify project related construction and operational emissions. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG)

emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model incorporates Pavley standards and Low Carbon Fuel standards into the mobile source emission factors. Further, the model identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user. The SJVAPCD recommends the use of CalEEMod to quantify project impacts.

Construction

The project would emit GHGs from upstream emission sources and direct sources (combustion of fuels from worker vehicles and construction equipment).

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the project. Upstream emission sources for the project include but are not limited to the following: emissions from the manufacture of cement; emissions from the manufacture of steel; and/or emissions from the transportation of building materials to the seller. The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this conclusion by stating, “The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for ... and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level” (CAPCOA 2008). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream /life cycle emissions are speculative; no further discussion is necessary.

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from onsite and offsite activities. Onsite emissions principally consist of exhaust emissions (NO_x, SO_x, CO, CO₂, CH₄, N₂O, VOC, PM₁₀, and PM_{2.5}) from heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM₁₀) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Offsite emissions are caused by motor vehicle exhaust (NO_x, SO_x, CO, CO₂, CH₄, N₂O, VOC, PM₁₀, and PM_{2.5}) from delivery vehicles, worker traffic, and road dust (PM₁₀ and PM_{2.5}).

The project is estimated to start construction in 2014 and be complete by 2020. The estimated construction schedule and construction equipment is provided in Table 3.3-5 in the Air Quality Section 3.3 of this Draft EIR.

Operation

SCENARIOS

Operational emissions are those emissions that occur during operation of the project. Three scenarios of operational emissions are estimated, as follows:

- Business as Usual: Emissions use factors for 2005 and 2006; assumes no greenhouse gas regulations were enacted on behalf of AB 32;
- 2020 Unmitigated: Emissions in 2020, which include reductions from the Pavley and Low Carbon Fuel Standard regulations (motor vehicles), Renewable Energy Standards (electricity); and
- 2020 Mitigated: Includes reductions from regulation and mitigation measures.

Greenhouse Gases Evaluated

This analysis is restricted to greenhouse gases identified by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of greenhouse gases, including several defined by AB 32 such as carbon dioxide, methane, and nitrous oxide.

The project may emit greenhouse gases that are not defined by AB 32. For example, the project may generate aerosols through emissions of diesel particulate matter from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty.

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain greenhouse gases defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

Sources

MOTOR VEHICLES

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project site. The emissions were estimated using CalEEMod emission factors.

The Traffic Impact Study for the project, prepared by Peters Engineering was used to obtain average daily trip generation to model operational motor vehicle emissions. The SJVAPCD-approved Residential Fleet Mix was used in the modeling. The emission factors are the CalEEMod defaults, which use EMFAC2007 emission factors. For the Business as Usual case, emission factors for 2005 were used. For the 2020 scenario, emissions for the year 2020 were used. The emission factors for 2020 take into account the Pavley and Low Carbon Fuel Standard regulations.

NATURAL GAS

Natural gas emissions refer to the emissions that occur when natural gas is combusted on the project site for heating water, space heating, or other uses. There was no reduction attributed to the 2020 scenario for this category. The CalEEMod defaults were used.

ELECTRICITY

The Pacific Gas & Electric (PG&E) Corporation would provide electricity to the project area. For the Business as Usual case, the CalEEMod defaults for electricity emission factors for PG&E were used, which represent emission factors in 2006. PG&E had 12.6 percent renewable energy in its portfolio in 2006 (CPUC 2011). Therefore, to achieve a 33 percent reduction as required by California's Renewable Electricity Standard, 20.4 percent more renewable energy in the utility's portfolio is needed. In 2020, the utility will achieve 33 percent renewable energy, which would decrease the emissions associated with electricity by 20.4 percent. The CalEEMod default electricity emission factors were adjusted to reflect this reduction. The emission factors are shown in Table 3.16-3.

**Table 3.16-3
Electricity Emission Factors**

Pollutant	Business as Usual (pounds per MWh)	2020 (pounds per MWh)
Carbon dioxide	641.35	510.51
Methane	0.029	0.023
Nitrous Oxide	0.011	0.008

Note:

MWh = megawatt hour

Source for Business as Usual emission factors: CalEEMod.

Source for 2020 emission factors: Business as Usual emission factors minus 20.4 percent

WATER TRANSPORT

There would be greenhouse gas emissions generated from the electricity required to transport and treat the water to be used on the project site. For the Business as Usual water demand estimate, historical values included in the City of Fresno Urban Water Management Plan for 2005 were used to estimate the water demand usage. The water demand estimates from the Water Supply Assessment were included in the analysis for the 2020 Scenarios.

WASTE

There would be greenhouse gas emissions from the decomposing waste generated by the project. The default waste generation rate from CalEEMod was used in the analysis.

IMPACT EVALUATION CRITERIA

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*
- b) *Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Thresholds of Significance

Generally, the evaluation of an impact under CEQA requires measuring data from a project against a “threshold of significance.” The Office of Planning and Research’s amendments to the CEQA Guidelines state that “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

According to the CEQA Guidelines’ Appendix G Environmental Checklist, to determine whether greenhouse gas emissions impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- b) *Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

Guideline 15064.4(a) states, “. . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify

greenhouse gas emissions resulting from a project, and which model or methodology to use . . . ; or (2) Rely on a qualitative analysis or performance based standards.”

The CEQA Guidelines amendments do not identify a threshold of significance for GHG emissions, nor does it prescribe assessment methodologies or specific mitigation measures. Instead, it calls for a “good faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions resulting from a project.”

The CEQA Guidelines amendments for GHG emissions state that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

Consideration No. 1: The extent to which the project may increase or reduce GHG emissions compared with the existing environmental setting. This discussion could involve a quantification of GHG emissions to the extent feasible.

Consideration No. 2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

Consideration No. 3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project’s incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

CALIFORNIA AIR POLLUTION CONTROL OFFICERS ASSOCIATION

On January 8, 2008, the California Air Pollution Control Officers Association released a paper that provides a common platform of information and tools for public agencies in addressing the climate change issue. The disclaimer states that it is not a guidance document but a resource to enable local decision makers to make the best decisions they can in the face of incomplete information during a period of change. The paper indicates that it is an interim resource and does not endorse any particular approach. It discusses three groups of potential thresholds, including a no significance threshold, a threshold of zero, and non-zero thresholds. Non-zero quantitative thresholds identified in the paper range from 900 to 50,000 metric tons per year. The paper also identified non-zero qualitative thresholds.

CALIFORNIA AIR RESOURCES BOARD

On October 24, 2008, ARB released a Preliminary Draft Staff Proposal entitled, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under California Environmental Quality Act (Draft Staff Proposal). The staff proposal is a rough framework for determining significance thresholds. The guidance provides that if certain projects meet

performance standards and remain below numeric thresholds, they will be considered less than significant. In its proposal, Staff noted that non-zero thresholds can be supported by substantial evidence, but thresholds should nonetheless be sufficiently stringent to meet the State's interim (2020) and long-term (2050) emissions reduction targets. The proposal takes different approaches for different sectors: 1) industrial projects, and 2) residential and commercial projects. Although ARB Staff proposed a numerical threshold for the GHG emissions of industrial projects, none were proposed for commercial (and residential) projects. The draft proposal was very controversial and ARB Staff no longer has any plans to move forward with any final thresholds. A key preliminary conclusion from the draft thresholds, however, was that ARB Staff, in setting a numerical threshold for industrial projects and suggesting performance standards, does not believe a "zero threshold" is mandated by CEQA." It is unknown at this time whether CARB will finalize its draft proposal.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

The District has published guidance for how to address greenhouse gas emissions in CEQA documents for projects located within its jurisdiction (SJVAPCD 2009 and SJVAPCD 2009b). In the guidance, the District states the following:

...District staff concludes that existing science is inadequate to support quantification of impacts that project specific [greenhouse gas] GHG emissions have on global climatic change. This is readily understood when one considers that global climatic change is the result of the sum total of GHG emissions, both manmade and natural that occurred in the past; that is occurring now; and will occur in the future. The effects of project specific GHG emissions are cumulative, and unless reduced or mitigated, their incremental contribution to global climatic change could be considered significant. District staff concludes that this cumulative impact is best addressed by requiring all projects subject to CEQA to reduce their GHG emissions through project design elements.

Therefore, the potential project specific and cumulative impacts are addressed utilizing the SJVAPCD's guidance as shown below.

THRESHOLDS OF SIGNIFICANCE

In accordance with the District's guidance for addressing greenhouse gas emission impacts for new projects under CEQA, a project would be considered to have a less than significant individual and cumulative impact on climate change if it were to do at least one of the following:

- Exempt from the requirements of CEQA, or
- Comply with an approved greenhouse gas emission reduction plan or greenhouse gas mitigation program, which avoids or substantially reduces greenhouse gas emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency, or

- Implement approved best performance standards, or
- Quantify project greenhouse gas emissions and reduce those emissions by at least 29 percent compared to Business as Usual. “Business as Usual” is referenced in ARB’s AB 32 Scoping Plan as emissions occurring in 2020 if the average baseline emissions during the 2002–2004 period grew to 2020 levels without additional control. Therefore, 2002–2004 emissions factors, on a unit of activity basis, multiplied by the activity expected to occur in 2020, is an appropriate representation of 2020 Business as Usual. The reductions can be based on any combination of reduction measures, including greenhouse gas reductions achieved as a result of changes in building and appliance standards occurring since the 2002–2004 baseline period.

The project is not exempt from CEQA. The Scoping Plan prepared pursuant to AB 32 demonstrates how California would reduce greenhouse gas emissions to 1990 levels by the year 2020. However, most of the measures in the Scoping Plan are not applicable to the project. There are not approved best performance standards that would apply to the project. Therefore, the approach used in this analysis is to quantify greenhouse gas emissions and reduce the emissions by at least 29 percent compared to Business as Usual.

3.16.2 IMPACT ANALYSIS

Impact #3.16.1 – Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

As stated previously, the District has established a menu of performance standards, some of which depend on the existence of an adopted climate action plan or the establishment of Best Performance Standards. This analysis adopts the following alternative threshold provided by District: whether the project will reduce or mitigate greenhouse gas levels by 29 percent from business-as-usual levels. To do so, this the analysis first will quantify project-related greenhouse gas emissions under a “business-as-usual” scenario, and then compare these emissions with those emissions that would occur when all project-related design features are accounted for, and when compliance with new regulatory measures is assumed. The standard and methodology is explained in further detail, below.

This analysis uses the District's thresholds, rather than relying upon thresholds adopted by Air Districts in the urban areas of California, or that considered by the District as most appropriate for the Valley, despite criticism thereof by some clean air advocates.

Construction

Greenhouse gas emissions generated during construction are shown in Table 3.16-4. The SJVAPCD does not have thresholds or guidance regarding the significance of construction related emissions. However, that does not mean a significance finding should not be identified. AB 32 requires that emissions within the State are reduced to 1990 levels by the year 2020. However, it could be possible that there could be some construction in 2020 or later. It should be

noted that the annual construction emissions would be significantly less than the 25,000 MTCO_{2e} reporting threshold in ARB’s cap and trade program. Additionally, Mitigation Measure #3.3.1a would reduce construction emissions of greenhouse gases in addition to criteria pollutants; these measures are consistent with the EPA publication, “Potential for Reducing Greenhouse Gas Emissions from Construction”. Because the construction emissions are minimal and incorporate reduction measures, the impact would be less than significant.

**Table 3.16-4
Construction Greenhouse Gas Estimates**

Year	Phase	MTCO_{2e} (Metric Tons)
2014	Phase 1	8,139.90
2015	Phase 1	2,864.74
2016	Phase 1	461.80
	Phase 2	3,506.53
	Total	3,968.33
2017	Phase 2	2,691.77
2018	Phase 2	402.94
	Phase 3	3,397.54
	Total	3,800.48
2019	Phase 3	2,681.77
2020	Phase 3	391.15
Total from all phases		24,538.14

Source: Quad Knopf, 2012, Appendix C

Operation

Operational or long-term emissions occur over the life of the project. The operational emissions for the project are shown in Table 3.16-5. As shown in the table, regulations alone would not result in a 29 percent reduction in Business as Usual emissions, which is a potentially significant impact. Mitigation and regulations are required to reduce Business as Usual emissions to 29 percent or more, which would reduce the impact to a less than significant level.

The Business as Usual emissions represent emissions if they would have occurred without regulations enacted pursuant to AB 32.

The 2020 emissions with regulations represent emissions with reductions from regulations enacted as part of AB 32, in particular the following:

- **Mobile:** Pavley and Low Carbon Fuel Standard regulation reductions are calculated by CalEEMod. The estimated reduction is 27.3 percent of the mobile sources GHG emissions (motor vehicle emissions).

- **Electricity:** Renewable Portfolio Standards require a 33 percent renewable portfolio by the year 2020. The estimated reduction from electricity GHG emissions is 20.4 percent.

**Table 3.16-5
2020 Operational Business as Usual Greenhouse Gas Estimates**

Source	Business as Usual MTCO ₂ e	2020 (with Regulation) MTCO ₂ e	2020 (with Regulation and Mitigation Measures) MTCO ₂ e
Area	3,432.55	3,432.13	3,432.13
Energy	11,107.92	9,236.91	8,292.85
Mobile	40,540.20	29,454.98	23,556.34
Waste	943.32	943.32	283.00
Water	963.71	719.79	594.66
Total	56,987.70	43,787.13	36,158.98
	Reduction	23.2	36.5
	Significance Threshold	29%	29%
	Are emissions significant after mitigation and regulation?	Yes	No

Source: Quad Knopf, 2012

Source of Business as Usual emissions: CalEEMod output for the year 2005 (Appendix C).

Source of 2020 emissions: CalEEMod output for the year 2020 (Appendix C)

Additionally, the State, the San Joaquin Valley Air Pollution Control District, and the City of Fresno impose requirements that help encourage energy and water conservation and limit air pollutants such as:

- **Green Building Standards:** Encourages a 15 percent reduction in energy use when compared to the State’s mandated energy efficiency standards, Reduction in 20 percent of potable water use through plumbing fixtures and fixture fittings. Automatic irrigation system controllers for landscaping provided by the builder.
- **California Building Code:** Electrical outlets on the exterior of homes to encourage the use of electric landscape equipment.
- **SJVAPCD:** Limitations on Wood Burning Fireplaces or Wood Burning Heaters in New Residential Developments:
 - No person shall install a wood burning fireplace in a new residential development with a density greater than two dwelling units per acre; and
 -
 - No person shall install more than two EPA Phase II Certified wood burning heaters per acre in any new residential development with a density equal to or greater than three dwelling units per acre.

- **City of Fresno:** Building construction standards prohibit coal-fired heaters and installation of new wood-burning heaters and fireplaces.

Conclusion: Construction emissions are minimal and incorporate emission reductions measures and would primarily occur prior to 2020; therefore, they would be *less than significant*. Operational emissions would be reduced by 23.2 percent compared to Business as Usual emissions with regulations alone, this would not be consistent with the SJVAPCD quantitative threshold of a 29 percent reduction in Business as Usual emissions. Impacts would be *potentially significant*.

The 2020 emissions with regulation and mitigation measures include reductions from the above regulations as well as mitigation measures that were adopted to reduce impacts to criteria pollutants (see Section 3.3 Air Quality of this Draft EIR) but also have the co-benefit of reducing greenhouse gas emissions by reducing Vehicle Miles Traveled, encouraging alternative methods of transportation, and implementing energy and water conservation such as the following which should be adopted as conditions of approval of the project:

- **Mitigation Measure #3.3.1e:** The project shall utilize high albedo construction materials (Cool Paving) to increase the reflectivity of roads, driveways, and other paved surfaces. Project site plans shall indicate locations where the special paving will be installed. Standard paving materials will only be allowed in areas where technical or safety considerations (as determined by the City’s Public Works Director) preclude use of the Cool Paving materials.
- **Mitigation Measure #3.3.1f:** Construction plans shall provide for the installation of automated lighting and thermal controls in all non-residential facilities. The City of Fresno will verify compliance during review of construction plans.
- **Mitigation Measure #3.3.1g:** Construction plans shall include one or more of the following roofing technologies to reduce energy consumption:
 - High albedo and low-emissive roofs;
 - EPA “Energy Star” approved roofing materials; and
 - “Green Roof” Technology.
- **Mitigation Measure #3.3.1h:** Construction plans shall address passive energy conservation through building orientation, use of natural ventilation and shading in a way that does not compromise the thermal integrity of the building or the implementation of mitigation measure #3.3.1i. The City of Fresno will verify compliance during review of construction plans.
- **Mitigation Measure #3.3.1i:** Each development project within the Westlake Development project site shall be designed to achieve a minimum 20 percent energy efficiency above 2008 Title 24 standards. Prior to issuance of building permits, the project applicant shall provide a third-party verification to the City of Fresno demonstrating that the project achieves this energy efficiency goal.

- **Mitigation Measure #3.3.1j:** Site plans submitted to the City of Fresno shall include sidewalks and bicycle lanes appropriately sized for anticipated future pedestrian/bicycle use on all adjacent and interior roadways. Ensure that the project will provide multiple and/or direct pedestrian and/or bicycle access to adjacent, complementary land uses and throughout the project.
- **Mitigation Measure #3.3.1k:** Large canopy trees shall be carefully selected and located to protect the buildings from energy consuming environmental conditions, and to shade 50 percent of paved areas within 15 years. This measure reduces emissions by reducing urban heat island effect, reducing ROG emissions from parked vehicles (shading reduces temperature, which reduces seepage), and creates a more walkable environment.
- **Mitigation Measure #3.3.1l:** Prior to issuance of building permits, a landscape plan shall be prepared and submitted to the City of Fresno for review and approval pursuant to the City's normal planning process that provide shade trees and foliage to reduce building and surface lot heating/cooling needs, and conform to landscape standards established by the City of Fresno. The landscape plan shall comply with the State mandated Water Efficient Landscape Ordinance and shall have the following components:
 - At least 50 percent of installed trees and shrubs shall be low-ozone forming potential (Low-OFP) and drought-tolerant species; and
 - The landscape plan shall be designed to shade 50 percent of paved surfaces within 10 years of buildout.

The reduction from the above measures in the 2020 Regulation and Mitigation Measures Scenario is as follows:

- **Energy:** A 25.3 percent reduction in electricity and natural gas emissions (as determined by CalEEMod) are realized from the Business as Usual emissions because regulations and the 20 percent over Title 24 energy efficiency standards mitigation measure.
- **Water:** A 38.2 percent reduction in greenhouse gas emissions associated with water transport is realized from the Business as Usual emissions because of increased water conservation measures.
- **Mobile:** A 41.9 percent reduction in mobile source greenhouse gas emissions from the Business as Usual emissions is realized because of regulations and mitigation measures which are reflected in CalEEMod as:
 - **Density:** The density of project is 7.6 dwelling units per acre (2,600 dwelling units/344 acres); and
 - **Increased diversity:** The proposed project includes neighborhood and community serving retail uses.
- **Walkability and Pedestrian Network:** The proposed project will be required to construct pedestrian infrastructure to on- and off-site locations.

Reductions from these measures are calculated by CalEEMod and are based the methodology presented in the California Air Pollution Control Officer's 2010 report, "Quantifying Greenhouse Gas Mitigation Measures".

The 2020 emissions with regulation and mitigation measures results in an overall 36.5 reduction in greenhouse gas emission from Business as Usual. The percent reduction achieves the recommended threshold established by the San Joaquin Valley Air Pollution Control District to find greenhouse gas emissions less than cumulatively significant.

Effectiveness of Measures: With the implementation of the above measures, impacts would be *less than significant*.

Impact #3.16.2 - Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

The City of Fresno does not have a greenhouse gas reduction plan or climate action plan. In the absence of a local, regional, or state plan that fully satisfies the requirements of the CEQA Guidelines, this analysis will focus on the project's consistency with the overarching goals of AB 32 and the strategies of CARB's Scoping Plan.

As discussed in Impact 3.16.1, above, the project would be consistent with the SJVAPCD's recommendations in its guidance for addressing greenhouse gases in CEQA. The SJVAPCD's guidance is based on a minimum of 29 percent reduction from Business as Usual, which is the same reduction that California would need to reduce greenhouse gas emissions to 1990 levels by the year 2020.

In the absence of an applicable local or regional greenhouse gas reduction plan, the project's compliance with AB 32 is evaluated through compliance with the applicable measures in the Scoping Plan below.

Scoping Plan

Emission reductions in California alone would not be able to stabilize the concentration of greenhouse gases in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in greenhouse gases elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be avoided.

The ARB Governing Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (ARB 2008).

Project consistency with applicable strategies in the Scoping Plan is assessed in Table 3.16-6. As shown, the project is consistent with the applicable strategies in the Scoping Plan.

**Table 3.16-6
Consistency with Applicable Scoping Plan Reduction Measures**

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
1. California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broadbased California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater benefits for California.	Not Applicable. When this cap-and-trade system begins, products or services (such as electricity) would be covered and the cost of the cap-and-trade system would be transferred to the consumers.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
3. Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California	Consistent. This is a measure for the State to increase its energy efficiency standards. However, the project would increase its energy efficiency through mitigation measure #3.3.1i (20 percent above the 2008 Title 24 Standards).
4. Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	Not Applicable. PG&E continues to diversify its power supply portfolio through the incorporation of solar, hydroelectric, wind, and fuel cells.
5. Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	Not Applicable. The project is not related to developing greenhouse gas emission reduction targets.
7. Vehicle Efficiency Measures. Implement light duty vehicle efficiency measures.	Not Applicable. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
8. Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	Not Applicable. The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California’s existing solar programs.	Consistent. This measure is being implemented by various agencies throughout California. The proposed project will offer homeowners the opportunity to install rooftop solar photovoltaic facilities on their homes.
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standards would be applicable to vehicles that access the project site.
11. Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	Not Applicable. The project is not an industrial land use.
12. High Speed Rail. Support implementation of a high-speed rail system.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or the City. The traffic/transportation analysis of this EIR (Section 3.14) has determined that this project neither hinders nor affects the implementation of a proposed High Speed Rail project.
13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.	Consistent. The State’s goal is to increase the use of green building practices. The project would implement green building strategies.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	Not Applicable. When this measure is initiated, it would be applicable to those gases that have high global warming potential that would be used by the project (such as in air conditioning and refrigerators).
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The project would not contain a landfill. The State’s goal is to help increase waste diversion. The project would participate in the City of Visalia’s recycling program.
16. Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	The project site is in an vacant disturbed condition. No forested lands exist onsite.
17. Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. This is a measure for state and local agencies. The project would implement water conservation features pursuant to Green Building standards, similar to other developments in the City of Fresno, and should be a condition of approval of the project.
18. Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping	Not Applicable. No grazing or feedlot activities that generate manure occur onsite or are proposed to be

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
Plan update determine if the program should be made mandatory by 2020.	implemented by the project.

Source of ARB Scoping Plan Reduction Measure: California Air Resources Board 2008.

Source of Project Consistency or Applicability: Quad Knopf.

General Plan Compliance

The 2009 Air Quality Update of the 2025 General Plan Resource Conservation Element included objectives and policies aimed at reducing greenhouse gas emissions within the City of Fresno. The General Plan objectives and policies are contained in Table 3.16-7 below. As shown in the table, the project is consistent with the feasible and applicable policies.

**Table 3.16-7
Consistency with General Plan Objectives and Policies**

Chapter/Element	Objective/Policy No.	Policy Text	Consistency Determination
Chapter 4-G. Resource Conservation Element – Air Quality Element	Objective G-1B	In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take timely and necessary actions to achieve and maintain reductions in greenhouse gas emissions in order to limit and prevent potential human-caused global climate change and the related potential detrimental affects upon public health and welfare of present and future residents of the community.	Consistent. The proposed project achieves a 36.5 percent reduction in Business as Usual emissions consistent with the SJVAPCD quantitative threshold of significance recommended in their 2009 guidance document, “Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA”
	Policy G-1-B-a	Establish and uphold planning criteria and environmental analysis protocols that evaluate potential greenhouse gas (GHG) emissions from public and private projects and provide useful reduction and mitigation strategies through implementation measures including the following: (1) When reviewing private and public projects, City departments shall incorporate global climate change analysis and mitigation measures as prescribed by the updated Public Resources Code Sections and CEQA Guidelines promulgated under provisions of Senate Bill 97 (2007), and shall utilize thresholds of significance or	Consistent. The project’s estimated greenhouse gas reductions are consistent with the SJVAPCD recommended threshold and with the overall percent reduction included in the ARB’s Scoping Plan. The project incorporates mitigation measures consistent with SJVAPCD example best performance standards and the CAPCOA mitigation measures for greenhouse gases.

Chapter/Element	Objective/Policy No.	Policy Text	Consistency Determination
		<p>applicable alternative analysis strategies (such as qualitative application of performance standards), adopted by the San Joaquin Valley Unified Air Pollution Control District, the California Office of Planning and Research, and the California Environmental Protection Agency. After the Office of Planning and Research adopts revisions to the California Environmental Quality Act Guidelines and processes to assess global climate change, the City shall consider amendments to Fresno Municipal Code Chapter 12, Article 5, the Environmental Quality Ordinance of the City of Fresno.</p>	
	Policy G-1B-b	<p>Increase efforts to incorporate GHG emission reductions in land use decisions, facility design, and operational measures subject to City regulation through implementation measures such as the following:</p> <p>(4) The City shall utilize guidance from the Institute for Local Government (refer to General Plan Appendix I), California Attorney General's Office (refer to General Plan Appendix J), California Air Pollution Control Officers Association (refer to the 2008 CEQA and Climate Change publication and its updates), and other sources of technical guidance in determining appropriate and feasible mitigation measures which may be incorporated into land use plans, development projects and City operations to achieve GHG emission reductions.</p> <p>(6) In order to prevent possible increases in vectorborne illnesses that may be associated with global climate change, the City shall incorporate its "Guidelines for Ponding Basin / Pond Construction and Management to Control Mosquito Breeding" as conditions</p>	<p>Consistent. The project has prepared a detailed greenhouse gas analysis using SJVAPD recommended models and has incorporated feasible mitigation measures identified by CAPCOA.</p> <p>The project will comply with the City's Guidelines for Ponding Basin / Pond Construction and Management to Control Mosquito Breeding".</p>

Chapter/Element	Objective/Policy No.	Policy Text	Consistency Determination
		of approval on any project which utilizes an on-site stormwater basin.	
	Policy G-1B-c	<p>Prioritize energy and water conservation through the following implementation measures, while maintaining public health and safety standards, utilizing the most current versions of the City’s Urban Water Management Plan and Metropolitan Water Resources Management Plan as source documents for data and for prioritizing actions:</p> <p>(1) Within a reasonable period of time from adoption of General Plan Resource Element / Air Quality Objective G-1B, the City shall initiate a process to revise land use policies, ordinances, development standards and landscape/shading standards to incorporate appropriate water conservation, water recycling, and recharge measures into private and public project analysis and design (e.g., requiring installation of dual color-identified plumbing that would accommodate future use of recycled water for landscaping).</p>	Consistent. The project includes mitigation measures to increase energy and water conservation. The project incorporates mitigation measures to include landscaping that complies with the Model Water Efficient Landscape Ordinance.
	Policy G-1B-d	<p>Maintain current levels of achievement for recycling and reuse of all types of waste material in the City, and further enhance waste and wastewater management practices to further achieve reductions in greenhouse gas emissions through implementation measures such as the following:</p> <p>(1) The City shall continue to require provisions for recyclable material collection and storage areas to be incorporated into all residential development designs, and within one year from adoption of General Plan Resource Element / Air Quality Objective G-1B shall consider expanding this requirement to all industrial facilities, sizing the recycling area for industrial development according to the</p>	Consistent. The project will participate in the City’s mandatory recycling efforts.

Chapter/Element	Objective/Policy No.	Policy Text	Consistency Determination
		anticipated types and amounts of recyclable material generated.	
	Policy G-1B-f	The City shall continue to enhance landscaping, consistent with energy and water conservation principles. (1) As additional technical information becomes available, the City shall evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.	Consistent. The project incorporates mitigation measures that include landscaping that is consistent with the Model Water Efficient Landscape Ordinance.

Source: City of Fresno General Plan, amended 2009.

Source of Project Consistency or Applicability: Quad Knopf.

The proposed project would not obstruct attainment of any of the goals established under AB 32. The project would comply with all present and future regulatory measures developed in accordance with AB 32 and CARB’s Scoping Plan.

Aside from helping to implement measures contemplated in ARB’s Scoping Plan, the project mitigation measures and regulatory measures likely will help to implement measures contemplated by the SJVAPCD’s CEQA guidance document. The SJVAPCD notes that projects can reduce greenhouse gas emissions through project designs that reduce vehicle miles traveled through features that promote pedestrian and bicycle access and include mixed-use development. The project is consistent with this strategy.

In summary, the project would not obstruct attainment of any of the goals established under AB 32. The project would comply with all present and future regulatory measures developed in accordance with AB 32 and ARB’s Scoping Plan, and will incorporate a number of features that would minimize greenhouse gas emissions beyond existing regulatory requirements. Such features also are consistent with the California Air Pollution Control Officers Association paper and general guidance provided by the SJVAPCD.

It should be noted that, with regard to AB 32 and CARB’s Scoping Plan, reductions in GHG emissions need not be equal amongst all sectors (e.g., the 1990-based reduction levels apply on a statewide basis and are not independently required of every individual project, or sector for that matter). As stated earlier, the commercial and residential sector accounts for only approximately nine percent of GHG emissions; arguably the key means by which to meet the AB 32 and S-305 goals will be to target the transportation, industrial, and electricity production sectors, which combined create approximately 85 percent of the State’s emissions. At the same time, the project reductions and applicable laws do result in a forecasted 36.5 percent reduction from business-as-usual levels, which not only shows compliance with SJVAPCD thresholds, but also promotion of AB 32 goals for 2020. Regarding goals for 2050 under Executive Order S-3-05, at

this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; therefore it would be speculative to make a determination.

Accordingly, taking into account the proposed project's emissions, project reductions, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the proposed project furthers the state's goals of reducing greenhouse gas emissions to 1990 levels by 2020 and does not obstruct its attainment.

Conclusion: The proposed project would not obstruct attainment of any of the goals established under AB 32. The project would comply with all present and future regulatory measures developed in accordance with AB 32 and ARB's Scoping Plan, and will incorporate a number of mitigation measures that would minimize greenhouse gas emissions beyond existing regulatory requirements. Impacts would be *less than significant*.

Mitigation Measures: No mitigation is necessary.

Impact #3.16.3 – Climate change effects on the project.

This impact addresses the recent amendment to the CEQA Guidelines section 15126.2(a), which requires that an EIR analyze the significant effects of bringing development and people to the affected area. As revised, Section 15126.2 would provide that a lead agency should analyze the effects of bringing development to an area that is susceptible to hazards such as flooding and wildfire, both as such hazards currently exist or may occur in the future. Several limitations apply to the analysis of future hazards, however. For example, such an analysis may not be relevant if the potential hazard would likely occur sometime after the projected life of the project (i.e., if sea-level projections only project changes 50 years in the future, a 5-year project may not be affected by such changes). Additionally, the degree of analysis should correspond to the probability of the potential hazard (CEQA Guidelines, Section 15143 [“ . . . significant effects should be discussed with emphasis in proportion to their severity and probability of occurrence.”]). As discussed in the Physical Setting, climate change could result in the following environmental impacts in California:

- Reduced precipitation;
- Changes to precipitation and runoff patterns;
- Reduced snowfall (precipitation occurring as rain instead of snow);
- Earlier snowmelt;
- Decreased snowpack;
- Increased agricultural demand for water;
- Intrusion of seawater into coastal aquifers;
- Increased agricultural growing season;
- Increased growth rates of weeds, insect pests and pathogens;
- Inundation of low-lying coastal areas by sea level rise;
- Increased incidents and severity of wildfire events; and
- Expansion of the range and increased frequency of pest outbreaks.

Although certain environmental effects are widely accepted to be a potential hazard to certain locations, such as rising sea level for low-laying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location. Therefore, this analysis examines only the following potential impacts:

- Inundation of low-lying coastal areas by sea level rise;
- Increased incidents and severity of wildfire events; and
- Reduced water availability.

Rise in Sea Levels

Climate change could result in sea level rises and increased flooding. Sea level rise is already affecting much of California's coastal region, including the Southern California coast, the Central California open coast, and the San Francisco Bay and upper estuary. During the past century, sea levels along California's coast have risen about 7 inches. The rate of sea level rise observed at the gauges along the California coast is similar to the estimate for global mean sea level. Sea levels are likely to increase by up to 35 inches by the year 2100, depending on the magnitude of climate warming. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

The project site is located more than 100 miles inland from the Pacific Ocean and is approximately 275 to 285 feet above mean sea level. Therefore, the proposed project would not be susceptible to flooding from sea level rise.

Wildfires

The project site is surrounded by undeveloped agricultural land, single-family residences, and light industrial uses. As such, wildland fire risks are extremely low. According to Cal Fire, the project site lies in an urbanized developed area outside of wildland fire hazard zones. Therefore, the proposed project would not be at risk of wildfires.

Reduced Water Availability

The California State University Fresno, Institute of Climate Change, Oceans and Atmosphere (ICOA) issued a report in which they evaluated the potential effects of climate change on the greater Fresno area and presented mitigation measures and adaptation strategies for reducing the impacts of climate change. One of the key areas discussed was reduced water availability from global climatic changes, resulting in the following environmental impacts:

- Early snowmelt and reduced storms resulting in longer dry periods; and
- Change in rainfall intensity resulting in greater runoff with reduced potential to capture and store freshwater for future use.

Mitigation measures and adaptation strategies presented included:

- Water conservation;
- Expansion of water recharge and water storage;
- Expansion of storm drainage infrastructure to capture urban run-off from projected storms with greater intensity;
- Greater emphasis on water quality by reducing runoff pollutants (salts, road oils, fertilizers, pesticides, etc.); and
- Assessment of new projects' water impacts.

The Water Supply Analysis (Appendix G) conducted for the proposed project concluded that sufficient water supply is available for the proposed project under various hydrologic year types, through the year 2030. However, because long-term water supply is a significant concern in California, the proposed project would reduce its demand on water supply through the implementation of water conservation measures (refer to Section 3.8 Hydrology and Water Quality).

The project would provide adequate drainage to accommodate urban run-off. As part of the MEIR, the City of Fresno is working with the Fresno Metropolitan Flood Control District and the Central Valley Flood Protection Board to address any necessary changes in drainage and flood protection and storm drainage requirements that may ensue from statistically validated trend increases in the amount and intensity of storms.

It can be reasonably concluded that with the incorporation of mitigation measures and compliance with regulation, the project would be consistent with mitigation and adaptation strategies to reduce the effects of climate change impacts from reduced water availability.

Conclusion: The proposed project would not be subject to significant adverse effects as a result of global climate change. The impact is *less than significant*.

Mitigation Measures: No mitigation is necessary.

CHAPTER FOUR
EVALUATION OF ALTERNATIVES

CHAPTER FOUR – EVALUATION OF ALTERNATIVES

4.1 Introduction

4.1.1 PURPOSE AND SCOPE

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6). This chapter identifies potential alternatives to the proposed project and evaluates them, as required by CEQA.

Key provisions of the CEQA Guidelines on alternatives (Section 15126.6[a] through [f]) are summarized below to explain the foundation and legal requirements for the alternatives analysis in the EIR.

- "The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" (15126.6[b]).
- "The specific alternative of 'no project' shall also be evaluated along with its impact"(15126.6[e][1]).
- "The no project analysis shall discuss the existing conditions at the time the Notice of Preparation (NOP) is published, and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (15126.6[e][2]).
- "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project" (15126.6[f]).
- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (5126.6[f][1]).
- "For alternative locations, "only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR" (15126.6[f][2][A]).

- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (15126.6[f][3]).

For each development alternative, this analysis:

- Describes the alternative;
- Analyzes the impact of the alternative as compared to the proposed project;
- Identifies the impacts of the project that would be avoided or lessened by the alternative;
- Assesses whether the alternative would meet most of the basic project objects; and
- Evaluates the comparative merits of the alternative and the project.

Per the CEQA Guidelines Section 15126.6(d), additional significant effects of the alternatives are discussed in less detail than the significant effects of the project as proposed.

4.1.2 PROJECT OBJECTIVES

As described in Section 2.2, the following objectives have been established for the proposed project. They will aid decision makers in their review of the project alternatives, and associated environmental impacts:

- To develop a "Master Planned" community that will provide a variety of housing opportunities with a complete range of densities, styles, sizes, and values which will be designed to satisfy the demand for quality and Housing Element-required housing by the existing and future City population base, in accord with 2025 Fresno General Plan Goal No. 8 (providing opportunity for a variety of affordable housing throughout the Metropolitan Area);
- To provide a quality on-site open space and recreational opportunity in the form of a man-made lake that will include water-based recreation, parkland and a community center, in accord with 2025 Fresno General Plan Goal No. 10 (provide quality open space, park and recreational facilities and programs to support the projected population);
- To provide a strong sense of "community" through the use of street patterns, landscaping, signage, lighting, and project amenities, in accord with 2025 Fresno General Plan Goal No. 9 (provide activity centers and intensity corridors within plan areas to create a mix of land uses and amenities to foster community identity and reduce travel);
- To provide commercial development sufficient to accommodate most of the daily needs of the projected population of the project, in accord with 2025 Fresno General Plan Goal No. 9 (provide activity centers and intensity corridors within plan areas to create a mix of land uses and amenities to foster community identity and reduce travel);
- To provide for alternative forms of transportation (pedestrian, bicycle) within the project, in accord with 2025 Fresno General Plan Goal No. 6 (coordinate land uses and circulation system to promote a viable and integrated multi-modal transportation network), thereby reducing dependency upon the automobile;

- To provide opportunities for mixed uses - residential, professional or commercial - which combine a variety of uses on one parcel;
- To provide design guidelines which will encourage the design of homes that will encourage work-at-home opportunities; and
- To provide for effective groundwater recharge and water conservation through project design.

4.1.3 SIGNIFICANT IMPACTS OF THE PROJECT

A primary consideration in selecting project alternatives is their potential to reduce or eliminate significant impacts compared to the proposed project. The project impact analysis, as detailed in Chapter 3 of this DEIR, concluded that the following impacts would remain significant, after mitigation, for the proposed project:

Aesthetics:

Impact #3.1.2 - Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view.

Agricultural Resources:

Impact #3.2.1 – Conversion of 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 uses.

Air Quality:

Impact #3.3.1 – Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Impact #3.3.3 – Conflict with or obstruct implementation of any applicable air quality plan.

Impact #3.3.4 – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Noise:

Impact #3.10.2 – 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. (Offsite Roadway Traffic Noise)

Impact #3.10.3 - Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project from offsite roadway traffic.

Transportation/Traffic:

Impact #3.14.1 – 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.

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.

4.1.4 RATIONALE FOR ALTERNATIVES SELECTION

As discussed above, CEQA provides that alternatives should:

1. Feasibly accomplish most of the basic purposes of the project; and
2. Avoid or substantially lessen one or more of the significant effects.

All alternatives selected for alternatives analysis met at least some of the project objectives identified in Chapter 2 and possessed some possibility of reduction or elimination of project-related significant impacts.

The comparative environmental ranking of the project alternatives is based on the alternative's relative and quantitative (where applicable) ability to reduce these identified significant impacts.

4.2 Alternatives Considered and Rejected During the Scoping/Project Planning Process

The following is a discussion of other-site alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this Draft EIR (EIR).

4.2.1 CEQA REQUIREMENTS

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (Guidelines Sec. 15126.6(f)(2)). Key factors in evaluating potential offsite locations for EIR project alternatives include: 1) whether the site is currently vacant, 2) if it is in the same jurisdiction, 3) whether development as proposed would require a General Plan Amendment, and 4) whether the project applicant could reasonably acquire the parcel. An analysis was therefore undertaken to determine whether existing vacant parcels within the City of Fresno would accommodate the proposed project.

4.2.2 CRITICAL OTHER-SITE CHARACTERISTICS

Any other project location for the project must:

- a. Fully or partially achieve the project objectives;
- b. Be served by, or be so located that there is potential for service by, adequate wastewater collection facilities;
- c. Not be encumbered by Williamson Act contracts;
- d. Be composed of parcels which, if purchasable by the applicant, can be aggregated into a site of sufficient size and shape to accommodate the project's lake-oriented design or a reasonable approximation thereof;
- e. Be located within the City of Fresno's urban growth boundary and be eligible for consideration of annexation to the City;
- f. Have surface water distribution facilities sufficient for lake development and maintenance given agreement between the City and Fresno Irrigation District for such usage; and
- g. Not be surrounded or abutted by areas of lower-cost or otherwise incompatible development which would adversely affect developed project salability.

4.2.3 OTHER-SITE ANALYSES

A review of available sites within the City of Fresno or its urban development boundary which conceivably possess all these attributes and none of the critical listed constraints, and can otherwise achieve or partially achieve the project objectives, disclosed no feasible alternative locations. The essential site attributes considered in this determination included site size and shape to accommodate lake development, availability of infrastructure, location within the City's Sphere of Influence, and availability of surface water transport to the site. The project proponent has no ownership of or access to any alternative site. There was no evidence that even were such a site found its usage would avoid or significantly lessen any of the significant impacts of the project.

It should also be noted that the alternatives analysis does not include consideration of a combination of smaller projects - residential and commercial - at diverse sites within the City's sphere of influence. The project is a unit composed of these land uses and the project focus - a recreational lake. None of the project objectives would be achieved by such a disintegrated combination of land uses.

4.3 Alternatives Selected for Analysis

The following alternatives have been determined to represent a reasonable range of alternatives (plus the no project alternatives) that have the potential to feasibly or partially attain objectives

of the project but avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in detail in following sections:

1. No Project/No Build;
2. No Project/No Plan Amendment;
3. Reduced Intensity; and
4. Increased Intensity.

After alternatives are summarized and compared with the proposed project, the chapter concludes with an analysis of the comparative environmental superiority of the various alternatives, as required by CEQA, and the identification of the environmentally superior alternative. The threshold criteria used in Chapter Three (Appendix G of the CEQA Guidelines) are used in this section to judge the significance of, and compare, the impact conclusions related to each criteria for the project for each alternative.

4.3.1 ANALYSIS GUIDELINES

CEQA, unlike NEPA, does not require alternatives analysis at the same detailed level as the analysis of the project; the analysis is simply required to "include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project". [CEQA Guidelines 15126.6(d)] It is, further, required to provide decision-makers and the public with sufficient information to make decision makers' reasoning accessible to the public and for decision-makers to make an informed decision.

The Guidelines require that not only the significant environmental effects of each alternative be identified for comparison with those of the project but that any additional significant effects of each alternative be ascertained and discussed.

4.3.2 NO PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6(e) requires every EIR to include a "No Project Alternative." "The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." In general, this alternative should discuss "existing conditions...as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

The manner in which a No Project Alternative shall be composed depends on the nature of the project at issue. "When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the 'no project' alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan" (CEQA Guidelines, Section 15126.6(e)(3)(A)).

In contrast, “[i]f the project is other than a land use or regulatory plan, for example a development project on identifiable property, the ‘no project’ alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this ‘no project’ consequence should be discussed. In certain instances, the no project alternative means ‘no build’ wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project’s non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment” (Section 15126.6(e)(3)(B)).

The No Project Alternative for this project considers two potential scenarios that could occur in lieu of the proposed project: (1) No Build - continuation of existing conditions (agricultural uses) within the proposed project site (CEQA Guidelines, Section 15126.6(e)(3)(B)); and (2) No Plan Amendment - development of the site under the current City of Fresno General Plan designations (Section 15126.6(e)(3)(A)).

4.3.3 NO BUILD - CONTINUATION OF EXISTING CONDITIONS (AGRICULTURAL USES) WITHIN THE PROPOSED PROJECT SITE

The proposed project site is a 460-acre piece of land, bounded by West Gettysburg Avenue, West Shields Avenue, North Garfield Avenue, and North Grantland Avenue. If the proposed project site were to remain in its present condition (agricultural land, periodically farmed but currently fallow), none of the significant impacts, after mitigation, attributable to the project would occur. Few additional impacts attributable to the no project/no build alternative would occur; the existing onsite environment would remain unchanged (see Section 4.3.3.2).

4.3.3.1 Impact Analyses

In confirmation of these conclusions the following analyses are presented:

AESTHETICS/VISUAL RESOURCES

Although fallow agricultural land may not be inherently aesthetic, particularly if weed growth is not controlled, it does not modify the general agricultural vista of the site or the site's surroundings. The existing site has no lighting of any kind. Site vistas will be unchanged.

Overall, aesthetic and lighting impacts would be reduced in comparison to the proposed project, and this alternative would be considered environmentally superior.

AGRICULTURAL RESOURCES

Although not currently (2013) in active agricultural use, under this alternative the project site would remain available for potential future agricultural uses. The site includes approximately

460 acres of farmland. In comparison to the proposed project, which would eventually develop the entire project site and essentially preclude future agricultural use of the property, this alternative would reduce impacts to agricultural resources, and is considered environmentally superior.

AIR QUALITY

This alternative would eliminate both short-term, construction-related, and long-term operational impacts associated with the proposed project. Under this alternative, the site would not generate substantial activities or emissions. Agricultural use would involve emissions from agricultural equipment, including fugitive dust (PM10). Such activities, however, would not generate air emissions approaching the levels anticipated for the proposed project. In comparison to the proposed project, this alternative would reduce short-term criteria pollutant contributions. In addition, this alternative would eliminate any significant unavoidable long-term impacts related to VOC and PM10 emissions generated from operation of the project. Additionally, the site would remain consistent with the AQMP as no criteria pollutants thresholds would be exceeded. In comparison to the proposed project, this alternative would reduce both construction and operational air quality impacts of the project and eliminate any long-term significant unavoidable operational air quality impact.

BIOLOGICAL RESOURCES

Under this alternative, the project site and any related biological resources would remain in their existing condition. Although the project site does not contain critical habitat for any of the sensitive plant species or the sensitive animal species listed as occurring in its general vicinity, the existing habitat would be unchanged.

Therefore, although this alternative would conceivably reduce any potential impacts, it would not eliminate any significant impacts in comparison to the proposed project because the project did not identify such impacts.

CULTURAL RESOURCES

Since this alternative would not involve any site disturbance, it would not have the potential to adversely affect any archaeological and paleontological resources at the project site. Although it would conceivably reduce this impact in comparison to the proposed project, it would not eliminate a significant impact since potential proposed project cultural resource impacts would be mitigated to less than significant.

GEOLOGY AND SOILS

Grading and excavation of the site would not occur under this project alternative. Moreover, no additional structures or persons would be introduced to the potential seismic-related hazards associated with a central California project site. Geologic impacts for this project alternative, therefore, would be reduced in comparison to the proposed project. Since geologic (and soils-

related) impacts would be mitigated to a less than significant level for the proposed project, this alternative would not eliminate a significant impact in comparison to the proposed project.

HAZARDS AND HAZARDOUS MATERIALS

In comparison to the proposed project, the No Project Alternative would not have the potential to disturb any hazardous materials associated with the former agricultural use of the site and would not introduce any potentially new hazardous materials related to project construction or operation. This alternative might, however, introduce new potential hazards associated with recurrence of farming on the site. Nevertheless, potential hazard and hazardous material related impacts would be less than those of the proposed project. Additionally, any hazards associated with the proposed project lake would not exist with this alternative. Although the EIR identified no significant impacts from hazards or hazardous materials from the project after mitigation, the less than significant impacts from the proposed project would be less under this alternative.

HYDROLOGY/WATER SUPPLY/WATER QUALITY

In this alternative, the entire project site would remain permeable surface, where rain and irrigation water would be able to percolate into the soil. In the proposed project, the majority of the site would be developed with impermeable surfaces such as buildings, parking lots, and hardscape. Therefore, the volume of stormwater from the project site would be reduced in this alternative compared with the proposed project. This alternative would not generate water contaminants from commercial uses and from parking lots, driveways, and roadways, as the proposed project would. However, this alternative would also not involve the best management practices (BMPs) that the proposed project would that would reduce water contamination. Resumption of farming might introduce pesticides and nitrates to the groundwater. Therefore, impacts to water quality may be substantially different under this alternative than under the proposed project. Impacts regarding hydrology and water quality may be similar to (water supply) or potentially lessened (water quality) than those of the project. They cannot be numerically compared. The total usage of water required for farming, about three acre feet per acre, or 1,380 acre feet, may be slightly less than that of the project (although a presumption of alfalfa crop production would require about 3 1/2 acre feet per acre, 1,600 acre feet per year, essentially the same as that of the project).

Although the EIR identified no significant impacts to hydrology/water supply/water quality from the project after mitigation, the less than significant project impacts of this category would be slightly less under this alternative.

LAND USE

Under the No Project Alternative, the project site would remain in its present condition (2012), fallow farmland.

Under this alternative, the project site would remain in its current condition and would not develop the mix of uses envisioned and General Plan-designated by the City. Therefore, the No Project Alternative would result in greater impacts to land use and planning than the proposed

project, as this alternative would not be consistent with the City's General Plan-designated goals and objectives.

NOISE

Because this alternative would eliminate construction activities, it would eliminate significant short-term construction noise impacts at nearby vibration-sensitive and noise-sensitive receptors and long-term project traffic related noise impacts to residential dwelling adjacent to major access roads to the site. Under this alternative, no vehicle trips or stationary noise would be generated beyond those associated with the existing agricultural land uses at the project site. Therefore, this alternative would avoid the significant identified noise permanent ambient noise impacts and noise impacts that exceed city standards, and the less than significant short-term noise impacts and long-term operational noise impacts would be reduced in comparison to those of the proposed project.

POPULATION AND HOUSING

Under this impact category, no incremental population would be introduced and no housing would be eliminated by this alternative. The project itself provides housing in accord with the City's 2025 General Plan and its associated rezoning, and displaces no existing housing. The impacts of this alternative may thus be considered increased compared to the proposed project.

PUBLIC SERVICES

Under this No Project Alternative, there would be no increase in demand for fire and emergency protection services, schools and library services and facilities. Public service impacts under this Alternative would thus be considered environmentally less than those of the proposed project.

RECREATION

Although the project is predicted to have with mitigation, less than significant impacts to recreation, this alternative, which involves no residential population increase, would create no impact from new or additional recreation demand, in contrast to the mitigated impact of the demand of the project's ultimate 7,956 residents.

TRANSPORTATION AND TRAFFIC

Under this no-project alternative, there would be no additional traffic trips except those generated from periodic or resumed farming operations on the project site. Project transportation and traffic impacts have been determined to be significant. This alternative would avoid the project's significant unmitigatable impacts to traffic.

UTILITIES

Under this alternative, no additional demand would be generated for area utilities and service systems. In comparison to the proposed project at buildout, it would eliminate wastewater

collection and treatment loadings, potable water demand, and solid waste collection and disposal needs, as well as the need for offsite service system improvements to water distribution and sewer collection systems.

Although the project is expected to have no significant unmitigatable impacts to utilities, this alternative would be expected to reduce the less than significant impacts of the project.

GREENHOUSE GASES/CLIMATE CHANGE

As the project site would not be developed, construction activities would not occur and therefore short-term Greenhouse gas (GHG) emissions would not be generated from the site. If any portion of the project site reverted to agricultural use, GHG emissions onsite would be dependent on the type of vegetation and how much biomass is produced from onsite vegetation. For example, more intensive farming operations, such as dairy farming, would generate more GHG emissions than less intensive agricultural operations. Additionally, reverting the project site to agricultural use may create a carbon sink¹ if a practice such as conservation tilling is employed. However, for the purposes of comparison, agricultural uses are generally considered carbon-neutral (i.e., no net increase or decrease in GHG emissions). Consequently, this alternative would eliminate the significant unavoidable construction-related global climate change impacts of the project. Furthermore, as the site would remain vacant, this alternative would not generate any mobile or stationary sources of GHG emissions. Because this alternative would not generate any vehicle trips, this alternative would eliminate the significant unavoidable impact from project-generated transportation sources of GHG emissions. Therefore long-term impacts from mobile-source emissions and stationary-source emissions (direct-source emissions and indirect emissions from energy usage) of GHG would also be reduced in comparison to the proposed project. Overall, this alternative would substantially reduce both construction and operational GHG emissions of the project and eliminate the project's impact on global climate change from long-term GHG emissions.

4.3.3.2 Ability to Reduce Environmental Impacts

In comparison to the proposed project, the No Project Alternative would reduce impacts re aesthetics, biological resources, cultural resources, geology and soils, public services, and utilities and services systems. Impacts to hydrology/water supply/water quality and to hazards and hazardous materials would differ but are estimated to be less than those of the proposed project. Significant project impacts to agricultural resources, air quality, transportation/traffic, noise and global climate change would be eliminated. Impacts to land use planning would be greater. This alternative substantially reduces the environmental impacts in comparison to the proposed project, and eliminates all significant and unavoidable impacts.

¹ Carbon sinks are those resources or processes that absorb atmospheric carbon as opposed to emitting GHG. The process of absorbing carbon through plants, soil, and water is known as carbon sequestration. Common practices and processes that sequester carbon dioxide include conservation tillage on croplands and grazing land management.

4.3.3.3 Ability to Achieve Project Objectives

The No Project/No Build Alternative would not achieve any of the objectives of the proposed project.

4.3.4 NO PLAN AMENDMENT - DEVELOPMENT OF THE SITE UNDER THE CURRENT CITY OF FRESNO 2025 GENERAL PLAN DESIGNATIONS

Subsequent to annexation, the proposed project site could be developed with Medium Low, Medium and Medium High Density Residential, Neighborhood Commercial, Community Commercial, Public Facility (elementary school), Open Space, and Neighborhood Park land uses in accordance with the City of Fresno General Plan. Thus, the site, if annexed, would foreseeably be developed with approximately the same residential population and 50% less commercial land usage than the commercial land uses of the proposed project. (See Table 2-2, reproduced here.) This assumption will be utilized for this No Plan Amendment Alternative.

Because the City of Fresno General Plan already designates the proposed project site for urban uses and the land is within the City's adopted sphere of influence, it is foreseeable that even if the project is denied, the land would be developed. Therefore, pursuant to CEQA requirements, the no project alternative should compare the proposed project's impacts to impacts from an alternative where the land is developed with current General Plan land use designations.

In defining this alternative, it should be noted that utilizing only pre-General Plan designated portions of the project site and developing in accord with maximum-zoning residential unit densities, the total allowed residential population would be 8,373 persons, slightly more than the projected project population. If currently non-pre-designated property were to be zoned at the same ratio of residential zone acreage to total acreage, and developed at the maximum residential usage density, the total site population would be 33% more (10,578) than the projected project population of 8,034.

Such a development is unlikely; quality residential projects seldom construct the maximum number of units possible under zoning regulations. Therefore, this alternative will be based upon a development with the residential population the same as that of the proposed project and with the residential, open space, and institutional acreages currently zoned.

**Table 2-2
Existing and Proposed Project Area Land Use Designations and Zoning**

Land Use Designation	Acreage Prezoned		Allowable Density per Acre	Proposed Acreage	Proposed Zoning
	Acres	Zoning			
Medium Low Density Residential	182	R-1/UGM ¹	2.19 to 6.0 DU/acre	111	R-1/UGM
Medium Density Residential	93	R-1/UGM ¹	4.99 to 10.37 DU/acre	184	R-1/UGM
Medium High Density Residential	40	R-2/UGM ¹	10.38 to 18.15 DU/acre	34	R-2/UGM
Neighborhood Commercial	19	C-1/UGM ¹	25% FAR ²	27	C-1/UGM & C-2/UGM
Public Facilities (Elementary School)	17	R-1/UGM ¹	---	12	O/UGM & R-1/UGM
Open Space	19	AE-5/UGM ¹	---	96	O/UGM & R-1/UGM
Total	370				
Site Total				90 ³	460

¹ County Zoning, AE-20, 20 acre minimum

² FAR = Floor area ratio

³ Area not prezoned

This alternative, as defined could conceivably meet all of the project objectives except that involving inclusion of a lake in the project design:

- *To provide a quality on-site open space and recreational opportunity in the form of a man-made lake that will include water-based recreation, parkland and a community center, in accord with 2025 Fresno General Plan Goal No. 10 (provide quality open space, park and recreational facilities and programs to support the projected population).*

4.3.4.1 Analysis

Because of the similarity (other than the project's lake feature) of the project and this alternative the analyses of differential impacts is relatively similar.

AESTHETICS/VISUAL RESOURCES

The only visual/aesthetic difference between the project and this alternative is the lake feature. Absent the lake, this alternative has arguably greater adverse aesthetic appeal and thus a greater impact.

AGRICULTURAL RESOURCES

The significant and unavoidable impact of the loss of agricultural resources is the same for the project and for this alternative.

AIR QUALITY

With the same residential population, but a 24% to 42%* increase in neighborhood/community commercial area, it may be assumed that this alternative envisions increased commercial development-related traffic, and thus additional traffic-related air quality impacts.

*19 acres to 27 acres, 42%; if increased in accord with ratio of currently pre-designated portion of the site plus County unzoned area to prezoned area. $[(460/370) \times 19]/27$, 24%

BIOLOGICAL RESOURCES

Given the same site size, there would be no difference in the mitigated biological impacts of the project and this alternative.

CULTURAL RESOURCES

Given the same site size, there would be no difference in the cultural resources impacts; they can, for both alternatives, be mitigated to less than significant.

GEOLOGY AND SOILS

Again, the site size is unchanged. The project will require more excavation because of the lake, but for neither the project or this alternative are there any geology or soils-related significant impacts.

HAZARDS AND HAZARDOUS MATERIALS

It is possible that this alternative may have lesser impacts in this category than the project because of the absence of any hazards related to the construction and maintenance of the lake. In neither instance, however, are there significant unmitigated impacts.

HYDROLOGY/WATER SUPPLY/WATER QUALITY

The City-approved Water Supply Assessment for the project found that there was no difference in the water demand for the project and for the development of the project site in accord with the City's 2025 General Plan (this alternative).

This alternative would have a slightly greater (55 acre) area with hardscape, but would have the same vehicular-related contaminant effect on project-area runoff. The difference cannot be quantitatively evaluated.

The project impact and this alternative's impact regarding this category would be essentially equal.

LAND USE

This alternative, assuming zoning of the currently unzoned portion of project site proportionate to that portion currently pre-designated, would be developed in full conformity with City land use requirements. It would, therefore, reduce the project's less than significant land use planning impacts.

NOISE

With essentially the same land uses and development, and dependent upon the precise location of these land uses on the project site, it is not foreseeable that there would be differing noise impacts from this alternative. Both would create significant noise impacts.

POPULATION AND HOUSING

Under this alternative, as defined, there will be no difference in population and housing impacts from these of the projects.

PUBLIC SERVICES

With essentially the same population and development level, there will be no differences in the impacts of the project and this alternative re public services.

RECREATION

With this alternative, the onsite recreational opportunities afforded to project residents by the project's lake would not be available. The Alternative's recreation impacts would thus be greater than those of the project.

TRANSPORTATION AND TRAFFIC

Absent detailed design of the alternative, and the calculation of traffic impacts relative to that design, it is foreseeable that the traffic impacts of the project, which were found to be significant, would be the similar under this alternative.

UTILITIES

With this alternative involving the same number of residents and a minimal decrease in commercial area, the demand for wastewater collection and treatment, potable water facilities, solid waste collection and disposal and other utilities will be only slightly less than those of the less than significant impacts of the project.

GREENHOUSE GASES/CLIMATE CHANGE

With the same project site size and the same levels of development, the impacts of this alternative on greenhouse gases and global climate change will be essentially identical.

4.3.4.2 Ability to Reduce Environmental Effects

In comparison to the proposed project, this No Plan Amendment Alternative could provide non-substantial reductions to impacts to hazards and hazardous materials, land use and utilities, and transportation/traffic. It would potentially increase aesthetic and recreation impacts. All other impacts would be unchanged. It does not eliminate any project-related significant and unavoidable impacts.

4.3.4.4 Ability to Achieve Project Objectives

The No Plan Amendment Alternative does not meet the following project objective:

- *To provide a quality on-site open space and recreational opportunity in the form of a man-made lake that will include water-based recreation, parkland and a community center, in accord with 2025 Fresno General Plan Goal No. 10 (provide quality open space, park and recreational facilities and programs to support the projected population).*

It is possible that with appropriate design and amenities, all other project objectives could be met.

4.3.5 REDUCED INTENSITY ALTERNATIVE

A feasible project alternative would be the development of the project site with reduced residential intensities and a correspondingly reduced commercial area and community center. It is assumed for purposes of analysis that, with a 50% reduction, the buildout population would be 4,017, the buildout commercial area would be 13 1/2 acres; the drainage basin site area would remain the same in order to serve potential future development in the basin's drainage-contributing area. The lake acreage, and the open space would remain the same, as would the project site. The project objectives would be partially achieved; an analysis of the extent of such achievement will be provided in Section 4.3.5.3. The evaluation of the financial feasibility of this alternative is outside the scope of this environmental evaluation.

4.3.5.1 Analysis

This analysis assumes a similar street pattern (not identical because of varying lot sizes) to that of the project and a similar lake location on the project.

AESTHETICS/VISUAL RESOURCES

Onsite aesthetics, because of a less urbanized appearance due to the larger lot sizes, will be potentially improved. Lighting and vistas will be the same as for the project. The total aesthetics/visual impacts will be lessened but would not foreseeably eliminate the significant impacts to aesthetics.

AGRICULTURAL RESOURCES

With development occupying the same project site, the agricultural resources impacts of this alternative will be the same as those of the proposed project.

AIR QUALITY

Without detailed project design and full traffic analysis based thereon it is impossible to quantify this impact (CEQA does not require such quantification for this or other impact category analyses). On a qualitative basis it may be reasonably predicted that there would be up to a 50% reduction of the project's air quality impacts.

BIOLOGICAL RESOURCES

With development occupying the same project site, the biological resources impacts of this alternative will be the same as those of the proposed project.

CULTURAL RESOURCES

With development occupying the same project site, the cultural resources impacts of this alternative will be the same as those of the proposed project.

GEOLOGY AND SOILS

With development occupying the same project site, the geology and soils impacts of this alternative will be the same as those of the proposed project.

HAZARDS AND HAZARDOUS MATERIALS

With development occupying the same project site, and the lake amenity similarly constructed and operated, the hazards and hazardous materials impacts of this alternative will be the same as those of the proposed project.

HYDROLOGY/WATER SUPPLY/WATER QUALITY

Absent full alternative project design and a complete Water Supply Assessment premised thereon it is not possible to quantitatively assess the impacts of this environmental category. The lake's water demand remains essentially the same but with a slight increase due to reduced rainwater runoff from the larger lots. Domestic water demand will be reduced by nearly half. Outdoor landscaping water demand will increase somewhat because of the lesser ratio of hardscape (buildings, driveways, etc.) to landscaped area. Stormwater runoff will be somewhat reduced; total stormwater recharge will be increased slightly on the larger lots. The net effect of all these changes will be a reduction in impact on the subbasin's aquifer and on water supply requirements.

Water quality impacts may be slightly increased by the greater percentage of the project site devoted to lawn and landscaping with their associated fertilization and pest control usage.

Although the proposed project's water quality impacts have been mitigated to less than significant, the impacts in this environmental category are evaluated as less for this alternative than for the project.

LAND USE

This alternative would require a modification in the city's land use designations and zoning ordinance for the project site to less intensive uses and zoning. Such a change would have a greater land use planning impact than that of the proposed project.

NOISE

Project noise impacts have been determined to be significant. Such impacts are not linearly related to project-related traffic. There would be a reduction in such impacts with this less

intensive development. That reduction cannot be quantified absent full alternative project design, a related traffic study, and a full noise impact study.

POPULATION AND HOUSING

With this alternative, as defined, there would be a 50% reduction in the construction of additional housing units. Such large-lot, probably more expensive, units would be less effective in reaching the City's General Plan housing goals. As with the project, this alternative would displace no existing housing. The alternative would result in increased housing impacts compared to those of the project.

RECREATION

Impacts on residential facilities are almost directly related to population (although occupants of larger, high-value, homes may impose less demand on public recreational facilities).

It may, therefore, be estimated that this alternative may have up to 50% less impact on recreation than the proposed project.

TRANSPORTATION AND TRAFFIC

The proposed project's transportation and traffic impacts are significant. Although this alternative, with a 50% reduction in population and the serving commercial area, may result in a corresponding decrease in project-related transportation and traffic impacts, this cannot be verified without a full traffic study. The impact must continue to be evaluated as significant, although less than that of the project.

PUBLIC SERVICES

Impacts on public services - police and fire protection, library services, schools - are related to population and to the extent and nature of commercial development. The population of this alternative, and the extent of commercial development are, by definition, 50% of the proposed project population and commercial development. The public services impact is then less by up to 50%.

UTILITIES

This alternative, as defined, would result in approximately 50% less impact on City utilities, wastewater, water, solid waste, and on other project area utilities. The impact will be less than the proposed project's less than significant impacts.

GREENHOUSE GASES/CLIMATE CHANGE

Since such gases, and their result and effect on global climate change, are principally related to construction, residential and commercial activities, and vehicle operation the project's less than significant impact will be reduced approximately 50% by this alternative.

4.3.5.2 Ability to Reduce Environmental Effects

In comparison to the proposed project, this Reduced Intensity Alternative could, non-quantitatively, reduce impacts to aesthetics/visual resources, air quality, hydrology/water supply/water quality, noise, transportation and traffic, recreation, public services, utilities and greenhouse gases/global climate change. Impacts to agricultural resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials and land use would be the same. Impacts to population and housing would be increased. It does not eliminate any project-related significant and unavoidable impacts.

4.3.5.3 Ability to Achieve Project Objectives

The initial, and perhaps primary, project objective is:

- *To develop a "Master Planned" community that will provide a variety of housing opportunities with a complete range of densities, styles, sizes, and values which will be designed to satisfy the demand for quality and Housing Element-required housing by the existing and future City population base, in accord with 2025 Fresno General Plan Goal No. 8 (providing opportunity for a variety of affordable housing throughout the Metropolitan Area).*

It may not be feasible to meet this objective at the proposed reduced project intensities.

The other project objectives can be met by the alternative.

4.3.6 INCREASED INTENSITY ALTERNATIVE

As an example of the comparative environmental effects of a project alternative designed at increased intensity it has been assumed that the project would be constructed on the northerly 307 acres (the northerly $\frac{2}{3}$) of the project site leaving the southerly 153 acres in periodic agricultural production.

This alternative would have the following total land uses:

Lake	37 acres
Open space/community center	27 acres
Commercial	18 acres
School	12 acres
Residential	213 acres
Total	<u>307 acres</u>

A similar total population would accommodate 8,034 persons in approximately 2,648 units. The floor area ratio in the commercial area would have to be increased to accommodate the neighborhood commercial needs of the project population. The open space/community center facilities would be redesigned within the reduced available area. The school site allocation of 12 acres remains unchanged.

The increased intensity residential land uses would change to:

Medium low density residential:	30 acres @ 4 DU/acre =	120 DU
Medium density residential:	40 acres @ 6 DU/acre =	240 DU
Medium high density residential:	143 acres @ 16 DU/acre =	<u>2,288 DU</u>
	Total:	<u>2,648 DU</u>

It is evident that a number of residential land use acreages, and dwelling unit (DU) intensities within those acreages, could be assumed. All of these, however, would result in similar comparative environmental effects vis-à-vis the proposed project. All would, of necessity, involve increased ratios of medium high density residential land use to the total residential area.

This alternative may not be either desirable from a City land use standpoint nor economically feasible. It would, however, partially fulfill the project objectives (see Section 4.3.6.3 of this EIR).

4.3.6.1 Analysis

AESTHETICS/VISUAL RESOURCES

Onsite aesthetics, because of a more urbanized appearance due to increased residential structure intensity, will be potentially diminished. Lighting and vistas will be the same as for the project. The total aesthetics/visual resources impacts will be increased.

AGRICULTURAL RESOURCES

With development occupying only $\frac{2}{3}$ of the project site, the agricultural resources impacts of this alternative will be less than those of the proposed project, although still significant as there will still be a loss of 307 prime acres of agriculture.

AIR QUALITY

Without detailed project design and full traffic analysis based thereon it is impossible to quantify this impact. On a qualitative basis it may be reasonably predicted that, with the approximate same number of dwelling units and population, the air quality impacts will be approximately the same for this alternative and the proposed project.

BIOLOGICAL RESOURCES

With development occupying only $\frac{2}{3}$ of the project site, the biological resources impacts of this alternative will be less than the less than significant impacts of the proposed project.

CULTURAL RESOURCES

With development occupying only $\frac{2}{3}$ of the project site, the cultural resources impacts of this alternative will be less than the less than significant impacts the proposed project.

GEOLOGY AND SOILS

With development occupying only $\frac{2}{3}$ of the project site, the geology and soils impacts of this alternative will be less than the less than significant impacts of the proposed project.

HAZARDS AND HAZARDOUS MATERIALS

Although the lake amenity is decreased in size compared to that of the proposed project, the intensity of usage may be increased dependent upon the degree of access permitted by non-lakeshore project residents, potentially increasing lake-related hazards. Other hazards, such as chemical usage, may because of the reduced project area, be somewhat decreased. It is, therefore, estimated that this environmental category's impacts are essentially equal to those of the proposed project.

HYDROLOGY/WATER SUPPLY/WATER QUALITY

Absent full alternative project design and a complete Water Supply Assessment based thereon it is not possible to quantitatively assess the impacts of this environmental category. The lake's water demand will be approximately $\frac{2}{3}$ that of the project's larger lake except that, because of increased rainfall runoff supply due to increased hardscape from more intense residential development, proportional water demand may be slightly reduced. Domestic water demand will be the same; outdoor landscaping water demand will be less. The net effect of these changes will predictably be a reduction in impact on the subbasin's aquifer and on water supply requirements.

Water quality impacts will be slightly, but not appreciably, increased because of the similar population but greater hardscape ratio.

The impacts in this environmental category will thus be less than the less than significant impacts of the project.

LAND USE

This alternative would require a modification in the City's General Plan and zoning designations for the project site, and possibly modify the annexation boundaries. These changes would have greater land use planning impacts than the proposed project because of reduced housing

availability and potential long-term urban/agricultural conflicts if the southern third of the area is left in agriculture.

NOISE

Although project noise impacts have been determined to be significant and such impacts are not linearly related to land use, residential intensity noise impacts will probably, because of equal traffic generation, be similar.

POPULATION AND HOUSING

By definition, this alternative provides housing for the same population. It may, however, assist the City in meeting General Plan Housing Element goals by enabling it to better achieve affordable-housing objectives with the intensity-related likelihood that the number of smaller units to be constructed would facilitate such an objective.

Accordingly, the comparative impact of this environmental category would be a decreased impact compared to that of the less than significant impacts of the proposed project.

RECREATION

The lesser lake and community center/open space amenities to be provided by this alternative for the same population would result in a corresponding greater demand on offsite recreational facilities. The impact is thus greater than that of the proposed project.

TRANSPORTATION AND TRAFFIC

This alternative, by definition, provides for the same population and a neighborhood service commercial area serving that population. The reduced-area project site, however, will modify the offsite access routes of the similar traffic volumes, conceivably concentrating traffic on the more northerly streets (Gettysburg and Ashlan) serving the reduced project site.

Absent detailed project design, and a new traffic study based thereon, it is not feasible to quantify the effects of such potential concentration. It may be reasonably predicted that, absent such quantification, such effects will be sufficient to warrant a conclusion that they are even more significant an unavoidable.

PUBLIC SERVICES

With the same population as that of the proposed project, and a neighborhood commercial development serving that population, the public services impacts of this alternative would be the same as those of the project.

UTILITIES

With the same population as that of the proposed project, and a neighborhood commercial development serving that population, the utilities impacts of this alternative would be the same as those of the project with the potential exception of a reduced power usage for the lake operation; the utilities impact would thus be slightly less.

GREENHOUSE GASES/CLIMATE CHANGE

Since such gases, and their resultant effect on global climate change, are principally related to construction, residential and commercial activities, and vehicle operation, the impacts in this category will be approximately the same as those of the proposed project.

4.3.6.2 Ability to Reduce Environmental Effects

In comparison to the proposed project, this Increased Intensity Alternative could, non-quantitatively, reduce impacts to agricultural resources, biological resources, cultural resources, geology and soils, hydrology/water supply/water quality, and population and housing. Impacts to air quality, hazards and hazardous materials, public services, utilities, and greenhouse gases will be the same. Increases will occur to aesthetics/visual resources, noise, recreation, land use and transportation and traffic impacts. The alternative does not eliminate any significant and unavoidable impacts of the project.

4.3.6.3 Ability to Achieve Project Objectives

The initial, and perhaps primary, project objective is:

- *To develop a "Master Planned" community that will provide a variety of housing opportunities with a complete range of densities, styles, sizes, and values which will be designed to satisfy the demand for quality and Housing Element-required housing by the existing and future City population base, in accord with 2025 Fresno General Plan Goal No. 8 (providing opportunity for a variety of affordable housing throughout the Metropolitan Area).*

It may not be feasible to meet this objective at the proposed increased project intensity.

The other project objectives can be met by the alternative.

4.4 Environmentally Superior Alternative

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. The relative impacts of each project alternative in comparison to the proposed project are summarized in Table 4-1. Since the No Project/No Build Alternative would eliminate each of the significant, unavoidable

impacts of the proposed project, it is environmentally superior. Among the three other alternatives analyzed, the No Project/No Plan Amendment Alternative would be considered an environmentally superior alternative. It is, however, another type of No Project Alternative. Accordingly, the superior development alternative is the Reduced Intensity Alternative; it has less environmental effect than either the Proposed Project or the Increased Intensity Alternative (see Table 4-1).

**Table 4-1
Proposed Project vs. Project Alternatives
Comparison of Environmental Impacts**

Environmental Impact	Proposed Project	Project Alternative			
		No Project - No Build Alternative	No Project - No Plan Amendment	Reduced Intensity Alternative	Increased Intensity Alternative
Aesthetics	LS	<	>	<	>
Agricultural Resources	S	<*	=	=	<
Air Quality	S	<*	=	<	=
Biological Resources	LS	<	=	=	<
Cultural Resources	LS	<	=	=	<
Geology and Soils	LS	<	=	=	<
Hazards and Hazardous Materials	LS	<	<	=	=
Hydrology/Water Supply/Water Quality	LS	<	=	<	<
Land Use	LS	<	<	>	>
Noise	S	<*	=	<	=
Population/Housing	LS	<	=	>	<
Public Services	S	<	=	<	=
Recreation	LS	<	>	<	>
Transportation/Traffic	S	<*	=	<	>
Utilities	LS	<	<	<	<
GHG - Global Climate Change	S	<*	=	<	=

- < Impacts would be less than those of the proposed project
- > Impacts would be greater than those of the proposed project
- = Impacts would be similar to the proposed project
- LS Less than Significant
- PS Potentially Significant
- S Significant Impact (> impacts could not be mitigated to less than significant)
- * Eliminates a significant impact

CHAPTER FIVE
CUMULATIVE IMPACTS

CHAPTER FIVE – CUMULATIVE IMPACTS

Introduction

The City of Fresno has maintained and developed for this project a list of past, present and probable future projects producing cumulative impacts affecting the City and its immediate environs. This list includes projects outside the control of the City. It is used, in this EIR, for the evaluation of traffic and offsite cumulative noise cumulative impacts (CEQA Guidelines Section 15130(1)(A)).

The other cumulative impacts analyses in this document are based on projections in the 2025 City of Fresno General Plan and its EIR, the City's adopted Urban Water Management Plan, or other related planning documents which have been adopted or certified (CEQA Guidelines Section 15130(1)(B)).

5.1 Cumulative Impacts Analysis

5.1.1 AESTHETICS

The landscape in northwest Fresno has been changing over the years from one of generally rural residential and agricultural uses to urban uses. Several land development proposals envisioned by the City of Fresno and Fresno County General Plans, and individual project proposals, have received their entitlements, or are seeking them. The northwest Fresno area and its immediate environs are, therefore, the area affected by aesthetics cumulative impacts as the area of geographical visual analysis.

Although the urban environment that is ultimately built could be aesthetically pleasing to many, these cumulative changes will significantly modify the existing visual character and quality of the area. Based on this EIR's standards of significance (see Chapter Three), the *cumulative* impacts of the proposed project and related projects are *significant, cumulatively considerable and unavoidable*, considering the project's incremental impact. Although the mitigation measures included in Section 3.1 are applicable to the project's cumulative impact, this impact cannot be mitigated to a less than cumulatively considerable level and thus is unavoidable.

5.1.2 AGRICULTURAL RESOURCES

The California Department of Finance (DOF) Demographic Research Unit forecasts that the Central Valley's population will more than double by the year 2040 to almost 10 million people. According to the American Farmland Trust, if current land use trends continue, nearly 900,000 acres of Central Valley farmland would thus be converted to urban uses and ranchette development, most of it high quality farmland.

As noted in Section 3.2, the proposed project would result in the loss of approximately 460 acres of land designated Farmland of Statewide Importance and Unique Farmland. The proposed project, as well as many other projects, will take Prime Farmland, Unique Farmland, and Farmland of Statewide Importance out of agricultural production. The agricultural production geographic areas affected by this loss include Fresno County, the Central Valley, and the State of

California. The project will therefore result in a *significant cumulative* impact. Although the mitigation measures included in Section 3.2 are applicable to the project's cumulative impact, it cannot be mitigated to a less than *cumulatively considerable and unavoidable* level.

5.1.3 AIR QUALITY

As growth continues in the San Joaquin Valley, attainment of air quality standards will become more difficult, even though overall air quality has improved. Currently approved and proposed cumulative development planned in Fresno, Tulare, Kings and Madera Counties will result in thousands of new homes and retail square footage.

The proposed project would contribute to cumulative air emissions by allowing for substantially greater development in the project area than currently exists. The amount of mobile and stationary emissions would be greater than what would be generated under existing conditions, or future conditions if the project area were to remain vacant. The SJVAPCD has adopted a cumulative threshold of significance of 10 tons per year of ozone precursors (ROG and NOx). Project emissions of these two pollutants, after mitigation, would exceed this threshold. Consequently, the proposed project would contribute to air quality degradation, and impede the San Joaquin Valley's ability to attain air quality standards. The geographic area for cumulative air quality analysis is therefore the San Joaquin Valley.

The cumulative construction and operational air quality impacts of the project, together with other foreseeable regional development, would be *significant and unavoidable*, and the project's contribution would be *cumulatively considerable*. Although the mitigation measures included in Section 3.3 are applicable to the project's cumulative impact, this impact cannot be mitigated to a less than cumulatively considerable level and thus is unavoidable.

5.1.4 BIOLOGICAL RESOURCES

Due to existing intensive urbanization and agricultural use in the project area, there are few biological resources remaining. However, some special-status species occur in the vicinity of the project. The increase in urbanization facilitated by the project would contribute to the cumulative loss of biological resource habitat in the San Joaquin Valley. Direct impacts to biological resources will be mitigated to a less than significant level by compliance with the City of Fresno General Plan policies and standards and the Federal and State agency-mandated laws and mitigation measures for special-status species. They are identified in Section 3.4, Biological Resources. Other projects in the vicinity of the proposed project site will be required to comply with laws and regulations protecting biological resources. Such compliance will contribute to limiting direct cumulative impacts on biological resources. However, despite the limited value of the habitat loss occasioned by the project, deemed less than significant as a direct effect, the cumulative habitat loss of this and all other urbanization projects in the San Joaquin Valley, dictate that for the Valley the cumulative impact will be *significant, cumulatively considerable, and unavoidable*. There are no project-related mitigation measures, which will reduce this impact.

5.1.5 CULTURAL RESOURCES

According to this EIR's cultural resources records search and cultural resources survey, there is no evidence of a historical, archaeological, paleontological, unique geological feature, or any known human remains within the proposed project site. While grading and other construction activities have the potential to impact cultural resources, City of Fresno General Plan policies and compliance with federal and State regulations reduce the project-specific impact to a less than significant level. Regional development throughout the County and west Fresno could also affect cultural resources located in other parts of Fresno County. However, development in these areas would also be subject to federal and State laws protecting such resources. Mitigation measures outlined in Section 3.5 are also applicable to cumulative impacts. As a result ***no significant cumulative impact*** will occur in the City, Fresno County, or the State.

5.1.6 GEOLOGY AND SOILS

Significance criteria for geology and soils impacts are based on potential for damage caused by seismic or geologic hazards and mineral resources depletion in the project site or vicinity. There are no such resources.

New developments in the project area can be affected to varying degrees by geologic and soil-related hazards. Soil-related hazards are site specific. Development in Fresno County and the Central Valley region will continue to expose people and property to seismic hazards. Compliance with the policies contained in the 2025 City of Fresno General Plan and with federal, State and local regulations addressing building construction, reduce project-level impacts associated with geology and soils to a less than significant level. Development projects in other communities would also be subject to local and State laws and regulations and local general plan policies. Review and permitting of specific development projects, including environmental review in accordance with CEQA, will involve characterization and consideration of site-specific geologic and soils conditions and mineral resources, and implementation of individual project mitigation where needed. As a result, seismic and soils hazards and effects on mineral resources are a ***less than significant cumulative impact*** in the City, Fresno County or the State.

5.1.7 HAZARD AND HAZARDOUS MATERIALS

As discussed in Section 3.7, while there would be an increase in local population and employment, the proposed project will not result in a significant impact related to hazards and hazardous materials due to compliance with local, regional, State and federal regulations and in accord with project-level mitigation measures. As growth occurs, additional people are exposed to the risk of hazardous materials, wastes and wildland fires. However, as in the project area, local, regional, State and federal regulations apply to development countywide and statewide, thereby reducing the potential for cumulative impacts associated with hazards and hazardous materials to a ***less than significant*** level in the City, Fresno County, or the State.

5.1.8 HYDROLOGY AND WATER QUALITY

As project development proceeds, the amount of polluted runoff will increase, as well as the amount of stormwater, presenting a potential impact to surface and groundwater quality. A

greater number of the City's population would also be exposed to potential risk from dam failure inundation. Project level water quality and flooding impacts are reduced to a less than significant level at the project level by City of Fresno General Plan policies and existing regulations and by project mitigation measures. Other new development within the City and County would also result in an increase in runoff and may locate additional population and structures within areas subject to flooding. Such development would also be required to comply with regional, State and federal regulations addressing stormwater runoff, water quality and flooding.

Additionally, approved and pending projects in the Fresno area will contribute to the potential for water supply depletion. Development of water supply infrastructure pursuant to planned improvements by the City of Fresno will reduce cumulative impacts. Conditions of project approval outlined in Section 3.8 will reduce cumulative impacts. However, as described in California Department of Water Resource Bulletin 118-80 and referred to in the City's Urban Water Management Plan CUWMP, the Kings Subbasin in which the project is located is in a critical condition of overdraft. The City of Fresno's UWMP outlines proposed methods to achieve the balancing of its groundwater operations by 2025. In the meantime, however, and should such balancing not take effect by that date, the project, together with other planned or proposed projects, should be considered to have a ***significant, considerable, and unavoidable cumulative impact*** on the groundwater resource of the Kings Subbasin. That impact must be evaluated as cumulatively considerable. There are no available project mitigation measures to reduce this cumulative impact to a less than significant level.

5.1.9 LAND USE

The land use analysis of the proposed project in Section 3.9 found that it would not conflict with established land uses or conflict with adopted or applicable land use or habitat plans or policies. Since the project would not result in a direct or indirect project-level land use impact, the project will also ***not contribute to a cumulative*** land use impact in the City, Fresno County, or the State.

5.1.10 NOISE

It is evident, from inspection of Chapter Three's Table 3.10-16 that the project alone will create offsite traffic-related residential noise impacts in 2030 adjacent to several streets. It must be assumed that currently unplanned projects affecting traffic on these streets as analyzed on Table 3.10-16, will cumulatively affect noise at these locations. The geographic area in which such effects may occur is defined as the land areas immediately bordering such streets.

As with the project-level impacts, the ***cumulative noise impacts*** are ***significant, cumulatively considerable, and unavoidable***. There are, as for the project-level impacts, no feasible mitigation measures other than those which may be taken by affected property owners or required by the City in approving land development.

5.1.11 POPULATION AND HOUSING

Significant cumulative impacts to population and housing could occur as a result of development in accord with the 2025 City of Fresno General Plan and the Fresno Council of Government's

(Fresno COG) August 2011 Regional Housing Needs Assessment. There will not be a significant or unavoidable project-level impact. Growth will also occur in other nearby cities and unincorporated communities in Fresno County. Fresno County and other incorporated and unincorporated jurisdictions are required by State law to use the General Plan process, as well as other planning processes, such as utility master plans, to plan for and control future growth. The appropriate geographic area, based on available data and General Plans, is Fresno County. As a result, there would not be a cumulative impact associated with unplanned growth adversely affecting population and housing. As a result, the proposed project would *not contribute to a significant cumulative impact*.

5.1.12 PUBLIC SERVICES

Police and fire protection services will be provided by the City upon annexation to have adequate manpower and facilities to serve the proposed project and planned future projects. The existing CUSD Central High School and the new middle school at the District's Educational Complex will be able to meet the educational needs of the project and the project area. A new elementary school, which could occur on the project site as a component of the project, will be needed in the vicinity to accommodate students in grades K-6. Project proponents will pay school impact fees per School District standards.

Library services have been evaluated as not being significantly impacted by the project; and there are no cumulative impacts associated with such services. [Since public services will be provided by the City and the School District, the geographic area to be considered for cumulative impact analysis is the City plus its adopted Sphere of Influence and the School District boundaries.]

It is anticipated that surrounding future land uses will include residential uses similar to the proposed project and that similar impact fees to support public services will be imposed on the development of such uses. Cumulative public services impacts are thus considered *less than significant*.

5.1.13 RECREATION

Implementation of the proposed project will result in potentially significant impacts to recreation resources and programs; however, project-level mitigation includes provisions for on-site recreational facilities, as well as for payment of required fees. The existing recreational facilities which would be affected by the project, as mitigated, and other projects, are located within the City and City-financed or will be located within the City's Sphere of Influence. These two areas are thus the areas in which cumulative impacts should be considered.

The project-level impacts on recreation have noted that the project's limited required payment of park impact fees, after the construction of onsite recreational parks, trails, and facilities, will avoid significant impacts on offsite recreational facilities. The project's cumulative impacts on recreation are thus *less than significant*.

5.1.14 TRANSPORTATION/TRAFFIC

The project would create an increase in traffic that will affect circulation conditions on the local and regional traffic and transportation network. The Circulation Element of the 2025 City of Fresno General Plan addresses established and planned roadways, bicycle and trail routes, alternative modes of transportation, pedestrian facilities, and the potential for light rail transit.

Section 3.14 of this EIR discusses impacts and mitigation measures related to projected traffic, and notes where potential significant impacts occur when the additional traffic generation from the proposed project results in a Level of Service above established thresholds. After implementation of the mitigation measures outlined in Section 3.14, several intersections and roadway segments remain significantly impacted. These projected traffic impacts, together with increases from now unforeseen regional development that results in additional traffic generation, will be ***cumulatively significant, unavoidable, and considerable***. The street and roadway sections analyzed in Chapter Three only define, in view of their inability to specifically locate such currently unforeseen development, the 'geographic scope' of the cumulative traffic impact analysis.

5.1.15 UTILITIES

Future growth in west Fresno and its abutting Sphere of Influence area will generate an additional demand for water, which must be provided by the City from surface and groundwater sources. The cumulative groundwater impact of this and other projected City projects must be considered ***significant and cumulatively considerable*** for the Kings Subbasin geographic area until completion of all scheduled City supply infrastructure and effectuation of City-planned water conservation measures.

Future regional growth will result in a need for expanded City of Fresno water infrastructure. Development of the project will result in the need for the City of Fresno to construct additional water facilities. The project-specific analysis in Section 3.15 took into consideration potential growth within the project area that would be provided water service, and no significant impact was identified in regards to the construction of any needed new and expanded distribution facilities. Therefore, the proposed project would ***not contribute to a significant cumulative impact*** associated with the provision of the water infrastructure to serve development in the City and the project-adjacent Sphere of Influence.

Future City growth will result in demand for wastewater collection system expansion and wastewater treatment facilities. The City of Fresno has currently contracted for a study to verify the capacity of its wastewater treatment facilities. The City has not at this time completed a study of the flow demands for and capacity of the Grantland Avenue trunk sewer serving the project area. However, since the proposed project and other projects in the City and Sphere of Influence area adjacent to the project will adhere to 2025 City of Fresno General Plan policies tying development to the provision of utilities, and thus avoid creating significant impacts associated with wastewater facilities availability, it would ***not contribute to a cumulative impact*** associated with the provision of wastewater service.

The project's storm drainage system, including the project lake and recharge basin, is self-contained and therefore creates *no cumulative storm drainage impact* on any City or other-agency systems.

CHAPTER SIX
OTHER CEQA REQUIREMENTS

CHAPTER SIX - OTHER CEQA REQUIREMENTS

6.1 *Significant Unavoidable Environmental Effects*

The CEQA Guidelines, Section 15126.2(b), requires a description of any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described. The project was evaluated with respect to specific resource areas to determine whether implementation would result in significant adverse impacts. The resource areas analyzed included aesthetics, agricultural resources; air quality; biological resources; cultural resources; geology/soils; hazards/hazardous materials; hydrology and water quality; land use and planning; mineral resources; noise; population and housing; public services; recreation; transportation/traffic; utilities/service systems; and greenhouse gas/global climate change.

The potentially significant environmental impacts that would result from implementation of the proposed project are summarized in Table ES-1 in the Executive Summary of this Draft EIR. In some cases, impacts that have been identified would be less than significant. In other instances, incorporation of the mitigation measures proposed in this Draft EIR would reduce the impacts to levels that are less than significant. Although the proposed project contains policies and guidelines that mitigate certain impacts, no mitigation measures have been identified to reduce the following impacts to a less than significant level. Those impacts that cannot feasibly be mitigated to a less than significant level, or for which no mitigation measures are available, would remain as significant unavoidable adverse impacts.

Aesthetics:

Impact #3.1.2 - Substantially degrade the existing visual character or quality of the site and its surroundings which are open to public view. Implementation of the proposed project will alter the visual character of the project site from agricultural fields to an urban mixed-use development. Because the project would permanently alter the existing visual character of the site and area compared to existing conditions, this is considered a significant, unavoidable and irreversible impact.

Agricultural Resources:

Impact #3.2.1 – Conversion of 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 uses. The proposed project will result in the loss of 460 acres of agricultural land designated Farmland of Statewide Importance and Unique Farmland. Because prime agricultural land is a non-renewable environmental resource, and there are no mitigation measures available to reduce this impact to a less than significant level, this impact is significant, unavoidable, and irreversible.

Air Quality:

Impact #3.3.1 – Violate any air quality standard or contribute substantially to an existing or projected air quality violation: Approval of the proposed project will result in additional development and urbanization within the City of Fresno, which will in turn increase criteria air pollutants in an area that is currently designated as a severe non-attainment area. The mitigation measures included in Section 3.3 would reduce project air quality impacts, but not demonstrably below the SJVAPCD thresholds of significance; therefore, area and operational emissions as a result of the proposed project would be significant, cumulative, and unavoidable.

Impact #3.3.3 – Conflict with or obstruct implementation of any applicable air quality plan: Because of the region’s non-attainment status for ozone, PM2.5, and PM10, if the project generated significant emissions of either of the ozone precursor pollutants (i.e., ROG and NOx), PM10, or PM2.5 would exceed the SJVAPCD’s significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans. Therefore, the result of the proposed project on applicable air quality plans would be significant, cumulative, and unavoidable.

Impact #3.3.4 – Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors): The Air Basin is in nonattainment for ozone, PM10, and PM2.5, which are discussed individually. As discussed in Impact 3.3.1, project emissions emitted within the Air Basin would exceed the significance thresholds for ROG and NOx. Therefore, project emissions could cumulatively combine with other sources in the Air Basin and could cause a future violation of the ozone standards. The mitigation measures included in Section 3.3 would reduce project air quality impacts, but not demonstrably below the SJVAPCD thresholds of significance; therefore, area and operational emissions as a result of the proposed project would be significant, cumulative, and unavoidable.

Noise:

Impact #3.10.1 – 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. Offsite Roadway Traffic Noise: Traffic noise has the potential to impact proposed project land uses. The proposed uses for the project site are considered to be “noise sensitive” by the City of Fresno. The hypothetical alternatives for mitigating traffic noise from existing off-site locations are construction of sound walls/barriers and sound insulation of residences. Where walls/barriers are feasible, they are usually the most practical and cost-effective way to reduce traffic noise impacts. Demolition of residential structures or sound insulation are usually not considered to be feasible or desirable noise mitigation alternatives. Therefore, it does not appear

that there are any feasible measures to mitigate off-site traffic noise impacts. This impact is significant and unavoidable.

Impact #3.10.3 - Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The proposed project would result in a permanent substantial significant increase in ambient noise levels from vehicular traffic. It does not appear that there are any feasible measures to mitigate off-site traffic noise impacts. This impact is significant and unavoidable.

Transportation/Traffic:

Impact #3.14.1 – 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.

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?

The proposed project is expected to create significant traffic impacts (substandard LOS) or contribute to cumulative impacts (exacerbate substandard LOS) as various stages of development occur. The project will be required to mitigate the significant impacts as described in Section 3.14. The mitigation measures that have been identified would improve most of the unacceptable operations to acceptable levels (except those that are identified as constrained and accepted by the City as LOS F, as identified in Mitigation Measures: #3.14.1-59, #3.14.1-60, #3.14.1-67, #3.14.1-109, and #3.14.1-116). For the constrained road segments, the impact would be significant and unavoidable. Upon completion of mitigation measures 3.14.1-1 through 3.14.1-117 (with the exception of mitigation measures #3.14.1-59, #3.14.1-60, #3.14.1-67, #3.14.1-109, and #3.14.1-116), the impact would be reduced to a less than significant level by attaining acceptable levels of service. Though the applicant will pay its fair share fee for the identified improvements, the City of Fresno cannot ensure that the improvements will be fully funded sufficient to facilitate construction prior to the project's contribution to the impact. If a proposed improvement is not fully funded and constructed before completion of the project, significant impacts to the intersection or roadway could occur until the City completes the improvements. Therefore, in accordance with the legal principles that underpin CEQA, the residual significance of this impact is significant and unavoidable.

6.2 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires an EIR to address significant irreversible environmental effects, which cannot be avoided if the proposed project is implemented.

Where the decision of the public agency allows the occurrence of significant effects which are identified in the Final EIR but are not at least substantially mitigated, the agency shall state in writing the specific reasons to support its action based on the Final EIR and/or the information in

the record (Section 15093(b)). This statement is called a “Statement of Overriding Considerations.” This statement will be prepared at the end of the CEQA review process, after the Final EIR for this project has been completed.

Implementation of the proposed project would result in the short-term commitment of nonrenewable and/or slowly renewable energy resources and natural resources including lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, and water due to construction activities. As the project site develops, both residential and nonresidential development would require further commitment of energy resources in the form of natural gas and electricity. Increased motor vehicular travel as a result of the increased commitment of public services would also be required.

Significant impacts resulting from development of the proposed project, for which complete mitigation is unavailable, infeasible, or outside the jurisdiction of the City to implement, are summarized in Section 6.1, Significant Unavoidable Environmental Impacts, and are described in detail in the appropriate subsections in Chapter Three of this Draft EIR.

6.3 Irreversible Changes to the Environment

Implementation of the proposed project would result in the long-term commitment of resources to serve the proposed project site. The most notable significant irreversible impacts are a loss of agricultural grazing land; a commitment of energy resources in the form of natural gas and electricity; increased demand on public services and infrastructure; and increased generation of pollutants. Implementation of the proposed project will also result in the short-term commitment of non-renewable and/or slowly renewable natural and energy resources such as lumber and other forest products, mineral resources, and water resources during construction activities. These irreversible impacts, which are currently unavoidable consequences of urban development, are described in detail in the appropriate sections of Chapter Three of this Draft EIR.

6.4 Growth-Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires a discussion of how the potential growth-inducing impacts of the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Direct population growth occurs when a project would result in the construction of a substantial amount of new housing or otherwise directly cause a substantial increase in a community’s population. Indirect growth inducement occurs when a project would extend infrastructure to undeveloped areas, remove obstacles to population growth, or otherwise encourage activities that cause significant environmental effects. Induced growth is distinguished from the direct employment, population, or housing growth of a project. If a project has characteristics that “may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively,” then these aspects of the project must be discussed as well. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of the proposed project. For example, a project could induce growth by lowering or removing barriers to growth or by creating or allowing a use such as an industrial facility that attracts new population or economic activity. CEQA

Guidelines also indicate that the topic of growth should not be assumed to be either beneficial or detrimental.

DIRECT AND INDIRECT GROWTH INDUCEMENT

A key consideration in evaluating growth inducement is whether the activity in question constitutes “planned growth”. A residential project that is consistent with the underlying General Plan and zoning designations would generally be considered planned growth because it was previously contemplated by these long-range documents, and, thus, would not be deemed to have a significant growth-inducing effect. Likewise, a project that requires a General Plan Amendment and re-zone to develop more intense uses than are currently allowed may be considered to have a substantial growth-inducing effect because such intensity was not contemplated by the applicable long-range documents. It should be noted that these are hypothetical examples, and conclusions about the potential for growth inducement will vary on a case-by-case basis.

DIRECT POPULATION GROWTH

Project implementation will have a direct growth inducing impact on the area’s population and housing stock by facilitating the development of up to 2,600 new households and up to 295,000 square feet of neighborhood and community commercial space in northwest Fresno. The proposed project is expected to increase the City’s population by 8,034 persons. The population growth attributable to the proposed project would represent 15.3 percent of the forecasted growth between 2016 and 2020 (based on population growth projections provided by Fresno COG).

The project site has approved pre-zoning for approximately 370 of the 460 acres consistent with the land use designations of the 2025 Fresno General Plan (Rezone No. R-04-81 was approved by the Fresno City Council on July 26th, 2005; see Figure 2-4). This zoning would become effective upon annexation of the site. Subsequent to annexation and re-zoning, the proposed project site could be developed with Medium Low, Medium and Medium High Density Residential, Neighborhood Commercial, Commercial Office, Public Facility (elementary school), Open Space, and Neighborhood Park land uses in accordance with the City of Fresno General Plan. Thus, the site, if annexed, would foreseeably be developed with approximately the same amount of residential and commercial uses as the proposed project (See Table 3.11-8 in Section 3.11). Because the proposed project’s population growth figures are within the growth projections provided by the Fresno COG, and the project site has been planned for development, it can be concluded that the proposed project would be considered planned growth and, therefore, not “growth inducing”.

REMOVAL OF BARRIER TO GROWTH

The proposed project would result in the extension of urban infrastructure to an area that is currently not serviced. In particular, potable water and sewer service would be extended to the project site. However, this would not be considered removal of a barrier to growth, because the project site is within the City’s Sphere of Influence and is contemplated for urban development by the General Plan. It is expected that the infrastructure extended to the project site would be

sized to serve the project, and will not be “over-sized” to serve any additional development in the area. As such, the extension of this urban infrastructure is “growth accommodating” because it is intended to facilitate planned growth.

Overall, the proposed project is consistent with the growth projections of the City of Fresno as it will not encourage growth that exceeds population projections. Growth inducement, as it pertains to CEQA and this document, generally denotes growth that is not planned for. Given that the proposed project is in compliance with City growth projections, it will not result in significant direct growth-inducing impacts.

Public water, sewer, and storm drainage infrastructure do not currently exist on the proposed project site; therefore, implementation of the proposed project will result in public infrastructure being added and potentially extended to undeveloped land located to the north, south and west of the proposed project site. This addition and extension of public infrastructure has the potential to support unplanned development and put more pressure on property owners to develop this land.

Since there is the potential for implementation of the proposed project to indirectly induce unplanned growth in the vicinity of the proposed project site, the project is considered to be significant in terms of indirect growth-inducement.

6.5 Effects Not Found to be Significant

CEQA Guidelines, Section 15128, states that “an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.” During the scoping process for this EIR, it was determined that all the issues cited in the Notice of Preparation (NOP) should be evaluated in detail; therefore, the Project was analyzed in detail with respect to all impact areas described within the Appendix G guidelines. To the extent a particular Project feature was not analyzed in detail in any given discussion of an impact area, it is implied that this Project feature did not result in a significant impact.

Results of the comprehensive environmental analysis are presented in Chapter Three of this EIR. Most impacts were found to be either less than significant or below a level of significance after mitigation.

6.6 Energy Conservation

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to

require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the CEQA Guidelines. Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project will not result in the wasteful, inefficient, and unnecessary consumption of energy, will not cause the need for additional natural gas or electrical energy-producing facilities, and, therefore, will not create a significant impact on energy resources.

REGULATORY SETTING

Federal and state agencies regulate energy use and consumption through various means and programs. At the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. At the state level, the California Public Utilities Commission (CPUC) and the CEC are two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards. California is exempt under federal law from setting state fuel economy standards for new on-road motor vehicles. Some of the more relevant federal and state energy-related laws and plans are discussed below.

Federal Energy Policy and Conservation Act

The Federal Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the United States Department of Transportation, is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 miles per gallon. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model; rather, compliance is determined on the basis of each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. The Corporate Average Fuel Economy (CAFE) program, which is administered by United States Environmental Protection Agency, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The United States Environmental Protection Agency calculates a CAFE value for each manufacturer, based on city and highway fuel economy test results and vehicle sales. On the basis of the information generated under the CAFE program, the United States Department of Transportation is authorized to assess penalties for

noncompliance. In the course of its over 30-year history, this regulatory program has resulted in vastly improved fuel economy throughout the nation's vehicle fleet.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) such as ABAG were required to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process for specific projects would then address these policies. Another requirement was to consider the consistency of transportation planning with federal, State, and local energy goals. Through this requirement, energy consumption was expected to become a decision criterion, along with cost and other values that determine the best transportation solution.

The Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including providing assistance to public agencies and fleet operators, encouraging urban designs that reduce vehicle miles traveled, and accommodating pedestrian and bicycle access.

Title 24, Energy Efficiency Standards

Title 24, which was promulgated by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, provides energy efficiency standards for residential and nonresidential buildings. According to the CEC, since the energy efficiency standards went into effect in 1978, it is estimated that California residential and nonresidential consumers have reduced their utility bills by at least \$15.8 billion. The CEC

further estimates that by 2011, residential and nonresidential consumers will save an additional \$43 billion in energy costs.

In 2008, the CEC adopted new energy efficiency standards. All projects that apply for a building permit after January 1, 2010 must adhere to the new 2008 standards. A copy of the 2008 Energy Efficiency Standards may be reviewed online at www.energy.ca.gov/title24/2008standards/index/html. The 2008 Energy Efficiency Standards may also be reviewed at the Energy Efficiency Division, California Energy Commission, 1516 Ninth Street, MS-29, Sacramento, CA 95814-5512.

Because the adoption of Title 24 post-dates the adoption of AB 1575, it has generally been the presumption throughout the State that compliance with Title 24 (as well as compliance with the federal and state regulations discussed above) ensures that projects will not result in the inefficient, wasteful, and unnecessary consumption of energy. As is the case with other uniform building codes, Title 24 is designed to provide certainty and uniformity throughout the State while ensuring that the efficient and non-wasteful consumption of energy is carried out through design features. Large infrastructure transportation projects that cannot adhere to Title 24 design-build performance standards may, depending on the circumstances, undertake a more involved assessment of energy conservation measures in accordance with some of the factors set forth in Appendix F of the CEQA Guidelines. As an example, pursuant to the California Department of Transportation CEQA implementation procedures and FHWA Technical Advisory 6640.8A, a detailed energy study is generally only required for large-scale infrastructure projects. However, for the vast majority of residential and nonresidential projects, adherence to Title 24 is deemed necessary to ensure that no significant impacts occur from the inefficient, wasteful, and unnecessary consumption of energy. As a further example, the adoption of federal vehicle fuel standards, which have been continually improved since their original adoption in 1975, have also protected against the inefficient, wasteful, and unnecessary use of energy.

According to the CEC, reducing energy use has been a benefit to all. Building owners save money, Californians have a more secure and healthy economy, the environment is less negatively impacted, and our electrical system can operate in a more stable state. The 2008 Standards (for residential and nonresidential buildings) are expected to reduce the growth in electricity use by 561.2 gigawatt-hours per year (GWh/y) and reduce the growth in natural gas use by 19 million therms per year (therms/y). The savings attributable to new nonresidential buildings are 151.2 GWh/y of electricity savings and 3.3 million therms. Additional savings result from the application of the Standards on building alterations, outdoor lighting, and refrigerated warehouses. In particular, non-residential alteration requirements for cool roofs, insulation, and interior lighting are expected to save about 270.5 GWh/y of electricity. Outdoor lighting and refrigerated warehouse requirements are expected to save an additional 37.3 GWh/y of electricity. These savings will accumulate as the Standards affect each subsequent year of construction—doubling in two years, tripling in three, etc. Table 6.6-1 provides a summary of the electricity savings envisioned by the 2008 standards.

**Table 6.6-1
Electricity Savings Projected from the 2008 Standards**

Category		2005 Standard (GWh)	2008 Standard (GWh)	Savings (GWh)	Percent Reduction
Newly Constructed Buildings and Alterations	Single-Family	NA	NA	97.9	22.7
	Multi-Family	NA	NA	4.3	19.7
Newly Constructed Buildings	Nonresidential Heating	33.0	21.0	12.0	37.2
	Nonresidential Cooling	392.0	360.0	32.0	8.3
	Nonresidential Lights	822.0	726.0	96.0	11.7
	Nonresidential Fans	646.0	636.0	10.0	1.5
Alterations	Interior Lighting	NA	NA	186.0	NA
	Cool roofs and Insulations	NA	NA	84.5	NA
Newly Constructed Buildings	Refrigerated Warehouses	NA	NA	15.6	NA
	Outdoor Lighting	NA	NA	21.7	NA
Total		NA	NA	561.2	NA

Notes:

GWh = Gigawatt hours

NA = not applicable

Refrigerated warehouses were previously unregulated

Source: California Energy Commission, 2007.

Since the California 2000–2001 electricity crisis, the CEC has placed greater emphasis on demand reductions. Changes in 2001 (following the electricity crisis) reduced electricity demand for newly constructed residential and nonresidential buildings by about 110.3 megawatts (MW) each year. Newly constructed nonresidential buildings account for 44.0 MW of these savings. Like energy savings, demand savings accumulate each year. The 2008 Standards are expected to reduce electric demand by another 131.8 MW each year. Table 6.6-2 provides a summary of the demand savings envisioned by the 2008 standards.

In many parts of the world, the wasteful and poorly managed use of energy has led to oil spills, acid rain, smog, and other forms of environmental pollution that have ruined the natural beauty people seek to enjoy. California is not immune to these problems, but the CEC-adopted appliance standards, building standards, and utility programs that promote efficiency and conservation have gone a long way toward maintaining and improving environmental quality. Other benefits include reduced destruction of natural habitats, which, in turn, helps protect wildlife, plants, and natural systems.

Many experts believe that burning fossil fuel is a major contributor to global warming; carbon dioxide is being added to an atmosphere already containing 25 percent more than it did two centuries ago. Carbon dioxide and other greenhouse gases create an insulating layer around the Earth that leads to global climate change. CEC research shows that most of the sectors of the

State economy face significant risk from climate change, including agriculture, forests, and the natural habitats of a number of indigenous plants and animals.

**Table 6.6-2
Demand Savings Projected from the 2008 Standards**

Category		2005 Standard (MW)	2008 Standard (MW)	Savings (MW)	Percent Reduction
Newly Constructed Buildings and Alterations	Single-Family	NA	NA	33.5	8.2
	Multi-Family	NA	NA	3.1	7.4
Newly Constructed Buildings	Nonresidential Heating	1.0	1.0	38.2	—
	Nonresidential Cooling	215.0	195.0	9.3	—
	Nonresidential Lights	144.0	120.0	16.4	—
	Nonresidential Fans	136.0	132.0	2.9	—
Alterations	Interior Lighting	NA	NA	45.4	NA
	Cool roofs and Insulations	NA	NA	NA	NA
Newly Constructed Buildings	Refrigerated Warehouses	NA	NA	1.8	NA
	Outdoor Lighting	NA	NA	NA	NA
Total		NA	NA	131.8	NA

Notes:

GWh = Gigawatt hours

NA = not applicable

Refrigerated warehouses were previously unregulated

Source: California Energy Commission, 2007.

Scientists recommend that actions be taken to reduce emissions of carbon dioxide and other greenhouse gases. While adding scrubbers to power plants and catalytic converters to cars are steps in the right direction (both of which are currently enforced as part of existing regulatory schemes), the use of energy-efficient standards can be effective actions to limit the carbon dioxide that is emitted into the atmosphere. According to the CEC, using energy efficiently, in accordance with Title 24 Energy Efficiency standards, is a proven, far-reaching strategy that can and does present an important contribution to the significant reduction of greenhouse gases.

Pursuant to the California Building Standards Code and the Title 24 Energy Efficiency Standards, the City will review the design and construction components of the project's Title 24 compliance when specific building plans are submitted.

ENERGY REQUIREMENTS OF THE PROPOSED PROJECT

Short-term construction and long-term operational energy consumption are discussed below.

Short-term Construction

The United States Environmental Protection Agency (EPA) regulates non-road diesel engines. The EPA has no formal fuel economy standards for non-road (e.g., construction) diesel engines but does regulate diesel emissions, which indirectly affects fuel economy. In 1994, EPA adopted the first set of emissions standards (Tier 1) for all new non-road diesel engines greater than 37 kilowatts (50 horsepower). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing nitrogen oxide (NOx) emissions from these engines by 30 percent. The EPA has since adopted more stringent emission standards for NOx, hydrocarbons, and particulate matter from new non-road diesel engines. This program includes the first set of standards for non-road diesel engines less than 37 kW. It also phases in more stringent Tier 2 emission standards from 2001 to 2006 for all engine sizes and adds yet more stringent Tier 3 standards for engines between 37 and 560 kW (50 and 750 hp) from 2006 to 2008. These standards will further reduce non-road diesel engine emissions by 60 percent for NOx and 40 percent for particulate matter (PM) from Tier 1 emission levels. In 2004, EPA issued the Clean Air Non-road Diesel Rule. This rule, which took effect in 2008 and will be fully phased in by 2014, will cut emissions from non-road diesel engines by more than 90 percent. These emission standards are intended to promote advanced clean technologies for non-road diesel engines that improve fuel combustion, but they also result in slight decreases in fuel economy.

The proposed project is anticipated to be constructed in two phases with groundbreaking occurring as early as 2015. The first phase of construction will be completed by 2016. Build out is expected to be completed by 2021. Table 6.6-3 provides an estimate of the project construction fuel consumption. The construction assumptions contained in the table are the same assumptions in the construction air quality analysis in Section 3.3 Air Quality.

As shown in the above table, construction activities associated with the proposed project would be estimated to consume 9,575,701 gallons of diesel. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the State. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

**Table 6.6-3
Construction Fuel Consumption**

Year	Component	Gallons
2013	Phase 1 Construction	602,579
	Onsite Roads	1,639,737
	Lake Construction	822,120
	<i>Subtotal</i>	<i>3,064,436</i>
2014	Phase 2 Construction	<i>2,054,300</i>
	Lake Construction	822,120
	<i>Subtotal</i>	<i>2,876,420</i>
2015	Phase 3 Construction	602,579
2016	Phase 4 Construction	607,373
2017	Phase 5 Construction	605,840
2018	Phase 6 Construction	605,840
2019	Phase 7 Construction	605,840
2020	Phase 8 Construction	607,373
Total		9,575,701

Long-Term Operations

TRANSPORTATION ENERGY DEMAND

Vehicle fuel efficiency is regulated at the federal level. Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing additional vehicle standards and for revising existing standards. The fuel economy standard for new passenger cars has been 27.5 miles per gallon since 1990. The fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 miles per gallon since 1996. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model; rather, compliance is determined on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

Trip generation figures provided in the Traffic Impact Study prepared for the project were used to estimate vehicular fuel consumption associated with trips to and from the proposed project. Table 6.6-4 provides an estimate of the daily fuel consumed by vehicles traveling to and from the proposed project. These estimates were derived using the same assumptions used in the operational air quality analysis in Section 3.3, Air Quality.

**Table 6.6-4
Daily Vehicle Fuel Consumption**

Vehicle Type	Percent of Vehicle Trips	Daily Vehicle Miles Traveled	Average Fuel Economy	Total Daily Fuel Consumption (gallons)
Passenger Cars	51.1	117,102	21.6	5,421
Light Trucks	38.9	89,145	17.2	5,183
Heavy-trucks/Other	8.8	20,166	6.1	3,306
Motorcycles	1.2	2,750	50	55
Total	100	229,163	-	13,965

Source of Percent of Vehicle Trips = URBEMIS
Based on 229,163 Vehicle Miles Traveled

As shown in the above table, daily vehicular fuel consumption is estimated to be 13,965 gallons of gasoline and diesel. The proposed project would be located with a half-mile of local serving retail; as such, the project would be expected to reduce trip lengths for residents. Accordingly, vehicular fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar land use in the region.

BUILDING ENERGY DEMAND

The proposed project is estimated to demand 21.430 MWh of electricity and 150,287 MMBtu of natural gas on an annual basis. These figures were derived from energy consumption rates provided by the United States Energy Information Administration and the California Energy Commission. The consumption rates are based on national and state figures for residential and commercial uses. Refer to Impact #3.15-8 in Section 3.15 Utilities for further discussion on the calculation used to arrive at this consumption estimate.

The proposed project’s structures would be designed to achieve a 20 percent increase in energy efficiency above the 2008 Title 24, California’s Energy Efficiency Standards for Residential and Nonresidential Buildings. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs. The incorporation increased energy efficiency above the 2008 Title 24 standards into the project would ensure that the project would not result in the inefficient, unnecessary, or wasteful consumption of energy.

CHAPTER SEVEN

IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

CHAPTER SEVEN– IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

California Public Resources Code Section 21003(f) states: “...it is the policy of the state that...[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment.” This policy is reflected in the State California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that “[a]n EIR [Environmental Impact Report] shall identify and focus on the significant environmental impacts of the proposed project” and Section 15143, which states that “[t]he EIR shall focus on the significant effects on the environment.” The Guidelines allow use of an Initial Study to document project effects that are less than significant (Guidelines Section 15063[a]). Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant, and were therefore not discussed in detail in the Draft EIR.

7.1 Assessment in the Initial Study

The Initial Study prepared for the proposed project in December 2007 determined that the impacts listed below would be less than significant. Consequently, they have not been further analyzed in this Draft EIR (DEIR) unless the Initial Study indicated that further review would occur in the EIR to better inform decision makers and the general public. Please refer to Appendix A for an explanation of the basis of these conclusions. Impact categories and questions below are summarized directly from the CEQA Environmental Checklist, as contained in the Initial Study.

7.2 Impacts Found to be Less than Significant in the Initial Study

This section provides a brief description of effects found not to be significant or less than significant, based on more detailed analysis conducted as part of the EIR preparation process. Note that a number of impacts that are found to be less than significant are addressed in the various EIR topical sections (Sections 3.1 through 3.16) to provide more comprehensive discussion of why impacts are less than significant, and in order to better inform decision makers and the general public.

7.2.1 AGRICULTURE AND FOREST RESOURCES

Forest Land Zoning

The project site has approved pre-zoning for approximately 370 of the 460 acres consistent with the land use designations of the 2025 Fresno General Plan (Rezone No. R-04-81 was approved by the Fresno City Council on July 26th, 2005; see Figure 2-4). This zoning would become effective upon annexation of the site to the City of Fresno; currently, the land is still AE-20 (Exclusive Agricultural District, 20-acre minimum lot size, Fresno County Zone District), as is the remaining 90 acres of the property. These zoning and pre-zoning designation are non-forest zoning designations. This condition precludes the possibility of the proposed project conflicting with a forest zoning designation. No impacts would occur.

Forest Land

The project site does not contain any forestland or timberland. Therefore, land use and development activities contemplated by the proposed project would not impact these resources. No impacts would occur.

7.2.2 Biological Resources

Riparian Habitat/Sensitive Natural Communities

The project site does not contain any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or USFWS. No impacts would occur.

Migratory Corridors

The project site contains no obvious wildlife movement corridors or topographic constrictions.

Conservation Plans

The project site is not within the boundaries of an adopted habitat conservation plan or natural community conservation plan. No impacts would occur.

7.2.3 GEOLOGY, SOILS, AND SEISMICITY

Septic and Alternative Wastewater Disposal Systems

The project would be served by sanitary sewers and would not require the installation of septic or alternative wastewater disposal systems. No impacts would occur.

7.2.4 HAZARDS AND HAZARDOUS MATERIALS

Emergency Response Plan/Emergency Evacuation Plan

The proposed project will result in new development and population growth, which could affect implementation of adopted emergency response and evacuation plans during disasters.

New development as a result of the proposed project will be designed to be consistent with policies in the City's General Plan Safety Element, which includes requiring new development to be designed and constructed in a manner that minimizes risks from fire, flood, seismic, geologic and noise hazards; and includes requiring adequate emergency access for fire and emergency vehicles. Impacts would be less than significant.

Wildland Fires

Much of the area surrounding the proposed project site is in agricultural production or is fallow agricultural land and there is potential for this land to catch on fire. Fresno has laws requiring the removal of weeds, trash and debris, disposing of yard clippings, upkeep of fences, watering and maintenance of yards. During Fresno's weed season, generally April through October, property owners are required to ensure that all weeds that constitute a fire hazard are cleared from their property or that the land is turned with a disc. Although wildland fire is a potential threat to the community, including the proposed project, City policies and standards are sufficient to reduce this potential impact to a less than significant level.

7.2.5 HYDROLOGY AND WATER QUALITY

Seiches, Tsunamis, or Mudflows

There are no inland water bodies that could be potentially susceptible to a seiche in the project vicinity. This precludes the possibility of a seiche inundating the project site.

The project site is more than 100 miles from the Pacific Ocean, a condition that precludes the possibility of inundation by tsunami.

There are no steep slopes that would be susceptible to a mudflow in the project vicinity, nor are there any volcanically active features that could produce a mudflow in the City of Fresno. This precludes the possibility of a mudflow inundating the project site. No impacts would occur.

7.2.6 LAND USE

Conservation Plans

The project site is not within the boundaries of a habitat conservation plan or natural community conservation plan. This condition precludes the possibility of the proposed project conflicting with the provisions of such a plan. No impacts would occur.

7.2.7 - MINERAL RESOURCES

Mineral Resources of Statewide or Local Importance

The project site does not contain any known mineral deposits or active mineral extraction operations. According to the City of Turlock General Plan, there are no historic or current mining operations other than minor excavations for fill material, which is not considered a significant resource within the General Plan study area (which includes the project site). This condition precludes the possibility of the loss of important mineral resources as a result of the development of the proposed project. No impacts would occur.

7.2.8 POPULATION AND HOUSING

Displacement of Persons or Housing

There is presently no existing housing on the Westlake Development Project site; therefore, implementation of the Westlake Development Project would not result in the displacement of persons or housing. Accordingly, land use and development activities contemplated by the project would not impact population or housing. *No impacts* would occur.

7.3 *Impacts Found to be Less than Significant in the EIR*

Additional EIR topical sections were found to be less than significant based on analysis contained in Chapter 3. These impacts are summarized in Table 7-1.

**Table 7-1
Impacts Found Not to be Significant**

Environmental Issues	Initial Study Determination
Aesthetics	
a) Have a substantial adverse effect on a scenic vista?	Less Than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	
Agricultural Resources	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
Biological Resources	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less Than Significant Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less Than Significant Impact

Environmental Issues	Initial Study Determination
Geology/Soils	
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42	Less Than Significant Impact
ii) Strong seismic ground shaking?	Less Than Significant Impact
iii) Seismic-related ground failure, including liquefaction	Less Than Significant Impact
iv) Landslide	Less Than Significant Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less Than Significant Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Less Than Significant Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	Less Than Significant Impact

Environmental Issues	Initial Study Determination
Hazards/Hazardous Materials	
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
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?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant Impact
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?	Less Than Significant Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	Less Than Significant Impact
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?	Less Than Significant Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to	Less Than Significant Impact

Environmental Issues	Initial Study Determination
<p>urbanized areas or where residences are intermixed with wildlands?</p>	
<p>Hydrology/Water Quality</p>	
<p>a) Inundation by seiche, tsunami or mudflow?</p>	<p>No Impact</p>
<p>Land Use and Planning</p>	
<p>a) Physically divide an established community?</p>	<p>No impact</p>
<p>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</p>	<p>No impact</p>
<p>Mineral Resources</p>	
<p>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?</p>	<p>No Impact</p>
<p>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?</p>	<p>No Impact</p>
<p>Noise</p>	
<p>a) 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?</p>	<p>No Impact</p>
<p>b) 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?</p>	<p>No Impact</p>

Environmental Issues	Initial Study Determination
Transportation/Traffic	
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?	Less Than Significant Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less Than Significant Impact
e) Result in inadequate emergency access?	Less Than Significant Impact
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?	Less Than Significant Impact

CHAPTER EIGHT

REFERENCES

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