PUBLIC DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

MODESTO URBAN AREA GENERAL PLAN

FEBRUARY 2025

Prepared for:

City of Modesto
1010 10th Street
Modesto, CA 95354
(209) 577-5200

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 812-7927

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

PUBLIC DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

MODESTO URBAN AREA GENERAL PLAN

FEBRUARY 2025

Prepared for:

City of Modesto
1010 10th Street
Modesto, CA 95354
(209) 577-5200

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 812-7927

DRAFT EIR

Chapter **Page Number**

Executive Summary ES-1

1.0 Introduction 1.0-1

1.1 Introduction 1.0-1

1.2 Purpose of the EIR 1.0-4

1.3 Type of EIR 1.0-5

1.4 Intended Uses of the EIR 1.0-6

1.5 Known Responsible and Trustee Agencies 1.0-9

1.6 Environmental Review Process 1.0-10

1.7 Organization and Scope 1.0-12

1.8 Comments Received on the Notice of Preparation 1.0-14

2.0 Project Description 2.0-1

2.1 Background and Overview 2.0-1

2.2 Purpose of the EIR 2.0-4

2.3 Type of EIR 2.0-5

2.4 Intended Uses of the EIR 2.0-6

2.5 Project Location 2.0-7

2.6 Modesto Urban Area General Plan (UAGP) 2.0-8

2.7 UAGP Project Objectives 2.0-11

2.8 Adopted General Plan Elements 2.0-12

3.1 Aesthetics 3.1-1

3.1.1 Environmental Setting 3.1-3

3.1.2 Regulatory Setting 3.1-4

3.1.3 Impacts and Mitigation Measures 3.1-6

3.2 Agricultural and Forest Resources 3.2-1

3.2.1 Environmental Setting 3.2-1

3.2.2 Regulatory Setting 3.2-8

3.2.3 Impacts and Mitigation Measures 3.2-14

TABLE OF CONTENTS

3.3 Air Quality 3.3-1

3.3.1 Existing Setting 3.3-1

3.3.2 Regulatory Setting 3.3-14

3.3.3 Impacts and Mitigation Measures 3.3-38

3.4 Biological Resources 3.4-1

3.4.1 Environmental Setting 3.4-2

3.4.2 Regulatory Setting 3.4-27

3.4.3 Impacts and Mitigation Measures 3.4-37

3.5 Cultural and Tribal Cultural Resources 3.5-1

3.5.1 Environmental Setting 3.5-1

3.5.2 Cultural Resources in the Modesto Planning Area 3.5-10

3.5.3 Regulatory Setting 3.5-16

3.5.4 Impacts and Mitigation Measures 3.5-27

3.6 Geology and Soils 3.6-1

3.6.1 Environmental Setting 3.6-2

3.6.2 Regulatory Setting 3.6-6

3.6.3 Impacts and Mitigation Measures 3.6-12

3.7 Greenhouse Gases, Climate Change, and Energy 3.7-1

3.7.1 Environmental Setting 3.7-1

3.7.2 Regulatory Setting 3.7-8

3.7.3 Impacts and Mitigation Measures 3.7-34

3.8 Hazards and Hazardous Materials 3.8-1

3.8.1 Environmental Setting 3.8-1

3.8.2 Regulatory Setting 3.8-18

3.8.3 Impacts and Mitigation Measures 3.8-37

3.9 Hydrology and Water Quality 3.9-1

3.9.1 Environmental Setting 3.9-1

3.9.2 Regulatory Setting 3.9-17

3.9.3 Impacts and Mitigation Measures 3.9-27

3.10 Land Use, Population, and Housing 3.10-1

3.10.1 Environmental Setting 3.10-1

3.10.2 Regulatory Setting 3.10-4
3.10.3 Impacts and Mitigation Measures 3.10-11
3.11 Noise 3.12-1
3.11.1 Environmental Setting 3.12-1
3.11.2 Regulatory Setting 3.12-11
3.11.3 Impacts and Mitigation Measures 3.12-16
3.12 Public Services and Recreation 3.12-1
3.12.1 Existing Conditions 3.12-1
3.12.2 Regulatory Setting 3.12-8
3.12.3 Impacts and Mitigation Measures 3.12-21
3.13 Transportation and Circulation 3.13-1
3.13.1 Environmental Setting 3.13-1
3.13.2 Regulatory Setting 3.13-5
3.13.3 Impacts and Mitigation Measures 3.13-30
3.14 Utilities and Services Systems 3.14-1
3.14.1 Water Supplies 3.14-1
3.14.2 Wastewater 3.14-23
3.14.3 Stormwater Drainage 3.14-35
3.14.4 Solid Waste 3.14-49
4.0 Other CEQA-Required Topics 4.0-1
4.1 Cumulative Setting and Impact Analysis 4.0-1
4.2 Growth-Inducing Effects 4.0-26
4.3 Significant Irreversible and Adverse Effects 4.0-29
4.4 Significant and Unavoidable Impacts 4.0-33
5.0 Alternatives 5.0-1
5.1 CEQA Requirements 5.0-1
5.2 Alternatives Considered in this EIR 5.0-3
5.3 Environmental Analysis 5.0-4
6.0 Report Preparers 6.0-1
7.0 References 7.0-1

TABLE OF CONTENTS

Table		Page Number
Table ES-1:	Project Impacts and Proposed Mitigation Measures	ES-3
Table 2.0-1:	Zoning and Density Guidance	2.0-3
Table 2.0-2:	Acreage by Land Use Designation – Adopted Land Use Map	2.0-9
Table 2.0-3:	Summary of Existing and Proposed Density and Unit Capacity – Within City	2.0-10
Table 2.0-4:	Summary of Existing and Proposed Density and Unit Capacity – Outside City	2.0-11
Table 3.2-1:	Summary of Comparison of Crop Values	3.2-2
Table 3.2-2:	Soil Capability Classification	3.2-3
Table 3.2-3:	Storie Index Rating System	3.2-3
Table 3.3-1:	Federal and State Ambient Air Quality Standards	3.3-10
Table 3.3-2:	State and National Attainment Status in Stanislaus County	3.3-11
Table 3.3-3:	Ambient Air Quality Monitoring Data Summary (Stanislaus County) - Ozone	3.3-12
Table 3.3-4:	Ambient Air Quality Monitoring Data Summary (San Joaquin Valley) – PM_{10}	3.3-12
Table 3.3-5:	Ambient Air Quality Monitoring Data Summary (Stanislaus County) - $PM_{2.5}$)	3.3-12
Table 3.3-6:	Combined Jobs and Housing Growth	3.3-43
Table 3.3-7:	Existing and Plus-Project VMT (per day) – Planning Area	3.3-43
Table 3.3-8:	Screening distances for Potentially Significant Odor Impacts	3.3-50
Table 3.4-1:	Cover Types - California Wildlife Habitat Relationship System	3.4-4
Table 3.4-2:	Special-Status Plant Species with Potential to Occur in the City of Modesto General Plan Area	3.4-14
Table 3.4-3:	Special-Status Wildlife Species with Potential to Occur in the City of Modesto General Plan Area	3.4-18
Table 3.4-4:	Policies For Sensitive Biological Habitats	3.4-33
Table 3.5-1:	City of Modesto Landmark Preservation Sites	3.5-14
Table 3.6-1:	Richter Magnitudes and Effects	3.6-4
Table 3.6-2:	Maximum Credible Earthquake and UBC Seismic Source Type for Principal Active Faults in the Region Surrounding Planning Area	3.6-5
Table 3.7-1:	PG&E and the State of California Power Mix in 2022	3.7-7
Table 3.7-2:	Combined Jobs and Housing Growth	3.7-37
Table 3.7-3:	Existing and Plus-Project VMT (per day)– Planning Area	3.7-37

Table 3.8-1: Modesto Site Cleanup and Hazardous Facilities List (Envirostor) 3.8-2
Table 3.8-2: Modesto LUST Cleanup Sites (GeoTracker) 3.8-6
Table 3.8-3: Modesto Permitted UST Sites 3.8-11
Table 3.8-4: Modesto Solid Waste Facilities/Sites 3.8-15
Table 3.9-1: State of California Watershed Hierarchy Naming Convention 3.9-2
Table 3.9-2: Planning Area Vicinity Impaired Water Bodies 3.9-9
Table 3.11-1: Typical Noise Levels 3.11-3
Table 3.11-2: Effects of Vibration on People and Buildings 3.11-6
Table 3.11-3: Typical Levels of Ground-borne Vibration 3.11-6
Table 3.11-4: Summary of Short-Term Noise Measurement Data 3.11-9
Table 3.11-5: Predicted Traffic Noise Level and Project-Related Traffic Noise Level Increases (dB) 3.11-18
Table 3.11-6: Construction Equipment Noise 3.11-25
Table 3.12-1: Modesto Police Department Crime Statistics (2021-2023) 3.12-4
Table 3.12-2: Public Schools Serving Modesto 3.12-6
Table 3.12-3: Enrollment by Grade MCS (2023-2024) 3.12-7
Table 3.13-1: VMT Summary 3.13-4
Table 3.13-2: City of Modesto + Planning Area Daily VMT and Socioeconomic Data 3.13-5
Table 3.13-3: City of Modesto Constrained Streets 3.13-21
Table 3.13-4: Traffic Model Population Growth 3.13-32
Table 3.14-1: Demands for Potable and Non-Potable Water – Actual (retail) 3.14-2
Table 3.14-2: Demands for Potable and Non-Potable Water – Actual (Wholesale) 3.14-2
Table 3.14-3: Use for Potable and Non-Potable Water – Projected 3.14-3
Table 3.14-4: Total Gross Water Use (Potable and Non-Potable) 3.14-3
Table 3.14-5: Use for Potable and Raw Water – Projected (Wholesale) 3.14-3
Table 3.14-6: Total Water Use (Potable and Non-Potable) 3.14-4
Table 3.14-7: Table 3.14-7: Projected Water Demands for Drought Risk Assessment 3.14-4
Table 3.14-8: Last Five Years of Water Loss Audit Reporting 3.14-5
Table 3.14-9: Normal Year Supply and Demand Comparison, AFY (Retail) 3.14-8
Table 3.14-10: Normal Year Supply and Demand Comparison, AFY (Wholesale) 3.14-9
Table 3.14-11: Multiple Dry Years Supply and Demand Comparison, AFY (Retail) 3.14-9
Table 3.14-12: Multiple Dry Years Supply and Demand Comparison, AFY (Wholesale) 3.14-10
Table 3.14-13: Requirements for Drainage Plans 3.14-43
Table 3.14-14: Examples of Construction Site Best Management Practices 3.14-43
Table 3.14-15: Design Criteria for Sediment Control Basins 3.14-44

Table 3.14-16: Measures that Can Be Incorporated into a SWMP 3.14-44
Table 3.14-17: City of Modesto Landfill Summary 3.14-50
Table 5.0-1: Comparison of Alternative Project Impacts to the Proposed Project 5.0-19

Figures

Note: Figures are located at the end of the chapters.

Figure 2.0-1 Vicinity Map
Figure 2.0-2 City of Modesto Planning Area
Figure 2.0-3 Proposed Growth Strategy Diagram
Figure 2.0-4 General Plan Land Use Map
Figure 2.0-5 Residential Build-Out Analysis Map
Figure 3.2-1 Important Farmlands
Figure 3.2-2 Soils Map
Figure 3.2-3 Williamson Act Map
Figure 3.4-1 Wildlife-Habitat Relationship Cover Types
Figure 3.4-2a Riparian Vernal
Figure 3.4-2b Riparian Vernal
Figure 3.4-2c Riparian Vernal
Figure 3.4-2d Riparian Vernal
Figure 3.4-3 CNDDB – 12 quads
Figure 3.6-1 Earthquake Faults Map
Figure 3.9-1 Watersheds Map
Figure 3.9-2 FEMA Flood Zone Designations Map
Figure 3.9-3 Dam Inundation Areas Map
Figure 3.11-1 Noise Measurement Locations
Figure 3.12-1 Existing Parks within the City of Modesto

Appendices

Appendix A – Notice of Preparation and NOP Comments

Appendix B – Transportation Study

Appendix C – Traffic Noise Calculation Inputs and Results

PURPOSE

The City of Modesto (City) proposes amendments to their General Plan and zoning ordinance, and has determined that these proposed amendments are a "project" within the definition of the California Environmental Quality Act (CEQA) that requires the preparation of an Environmental Impact Report (EIR). This Draft EIR has been prepared to evaluate the environmental impacts associated with implementation of the project. This EIR is designed to fully inform decision-makers in the City, other responsible and trustee agencies, and the general public of the potential environmental consequences of approval and implementation of the General Plan Update. A detailed description of the proposed project, including the components and characteristics of the project, project objectives, and how the EIR will be used, is provided in Chapter 2.0 (Project Description).

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the project that are known to the City, raised during the Notice of Preparation (NOP) scoping process, or were raised during preparation of the Draft EIR. This Draft EIR addresses the potentially significant impacts associated with aesthetics, agriculture and forest resources, air quality, biological resources, cultural and tribal cultural resources, geology, greenhouse gas emissions and energy, hazards and hazardous materials, hydrology and water quality, land use planning and population/housing, mineral resources, noise, public services and recreation, transportation, utilities and service systems, and cumulative impacts.

During the NOP process, 3 comment letters were received from interested agencies and organizations. The comments are summarized in Chapter 1.0 (Introduction), and are also provided in Appendix A. The following are topics of public concern or potential controversy that have become known to the City staff based on public input, known regional issues, and staff observations:

- Impacts of traffic and congestion on local, regional, and state transportation facilities as a result of the General Plan Update.
- Impacts associated with air quality.
- Impacts associated with public services.
- Effects of noise, vibrations, emissions and safety impacts to sensitive receptors as a result of the General Plan.
- Impacts on regional stormwater, drainage, groundwater, and water quality.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed project. The alternatives analyzed in this EIR include the following:

- **No Project (No Build) Alternative**: The No Project Alternative is the continuation of the existing adopted General Plan into the future. Thus, No Project Alternative as envisioned in the existing adopted General Plan, and as analyzed in the 2019 General Plan EIR, would be compared to the impacts that would occur with the proposed amendments to the General Plan and Zoning Ordinance (i.e. residential density changes).
- **Increased Density Concentration Alternative:** The Increased Density Concentration Alternative is like the proposed Project in terms of the proposed amendments to the General Plan and Zoning Ordinance (i.e. residential density changes), however, the focus on density increases would be limited to a few targeted areas (e.g., Downtown Area, Baseline Developed Area) while leaving the other areas (e.g., Planned Urbanizing Area) unchanged.

A comparative analysis of the proposed General Plan and each of the Project alternatives is provided within Section 5.0: Alternatives of the Draft EIR. The comparison shows that the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Increased Density Concentration Alternative would be the environmentally superior alternative because all environmental issues would have reduced impacts compared to the proposed Project. It is noted that neither the No Project Alternative nor the Increased Density Concentration Alternative fully meet all the Project objectives.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the project's significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations. A "beneficial" effect is not defined in the CEQA Guidelines, but for purposes of this EIR a beneficial effect is one in which the environmental condition is enhanced or improved.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-1.

TABLE ES-1: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: The Project would not result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character	LS	*None Required*	LS
Impact 3.1-2: The Project would not substantially damage scenic resources within a State Scenic Highway	LS	*None Required*	LS
Impact 3.1-3: The Project would not result in light and glare impacts	LS	*None Required*	LS
AGRICULTURAL AND FOREST RESOURCES			
Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.2-2: The proposed Project would conflict with existing zoning for agricultural use, or Williamson Act Contracts	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.2-3: Project implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use	LS	*None Required*	LS
AIR QUALITY			
Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
plan, or result in a cumulatively considerable net increase of criteria pollutants			
Impact 3.3-2: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.3-3: General Plan implementation would not result in other emissions (such as those leading to odors) adversely affecting substantial numbers of people	LS	*None Required*	LS
BIOLOGICAL RESOURCES			
Impact 3.4-1: The Project would not generate substantial adverse effects, either directly or indirectly through habitat modification on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service	LS	*None Required*	LS
Impact 3.4-2: The Project would not result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service or have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.4-3: The Project would not 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 native wildlife nursery sites	LS	*None Required*	LS
Impact 3.4-4: The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	*None Required*	LS
Impact 3.4-5: The Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan	LS	*None Required*	LS
CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: The Project would cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section 15064.5	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.5-2: Potential to lead to the disturbance of any human remains	LS	*None Required*	LS
Impact 3.5-3: Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency	LS	*None Required*	LS
GEOLOGY AND SOILS			

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.6-1: Potential to expose people or 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, seismic-related ground failure, including liquefaction, or landslides	LS	*None Required*	LS
Impact 3.6-2: Potential to result in substantial soil erosion or the loss of topsoil	LS	*None Required*	LS
Impact 3.6-3: Potential to result in development 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	LS	*None Required*	LS
Impact 3.6-4: Potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property	LS	*None Required*	LS
Impact 3.6-5: General Plan implementation does not have the potential to 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	LS	*None Required*	LS
Impact 3.6-6: Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	LS	*None Required*	LS
Impact 3.6-7: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or result in the loss of availability of a locally-	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan			
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: General Plan implementation would generate GHG emissions that could have a significant impact on the environment and/or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.7-2: General Plan implementation would not result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency	LS	*None Required*	LS
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8.1: The Project would not 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 involving the release of hazardous materials into the environment	LS	*None Required*	LS
Impact 3.8-2: The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LS	*None Required*	LS
Impact 3.8-3: General Plan implementation would not have projects located on a site which is included on a list of hazardous materials sites	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
compiled pursuant to Government Code Section 65962.5			
Impact 3.8-4: Potential to be located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area	LS	*None Required*	LS
Impact 3.8-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	*None Required*	LS
Impact 3.8-6: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires	LS	*None Required*	LS
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: General Plan implementation would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan	LS	*None Required*	LS
Impact 3.9-2: General Plan implementation would not result in the depletion of groundwater supplies or interfere substantially with groundwater recharge or conflict with a groundwater management plan	LS	*None Required*	LS
Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff	LS	*None Required*	LS
Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
LAND USE, POPULATION AND HOUSING			
Impact 3.10-1: Project implementation would not physically divide an established community	LS	*None Required*	LS
Impact 3.10-2: The Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect	LS	*None Required*	LS
Impact 3.10-3: The Project would not induce substantial population growth in an area	LS	*None Required*	LS
Impact 3.10-4: The Project would not displace substantial numbers of people or existing housing	LS	*None Required*	LS
NOISE			
Impact 3.11-1: The Project would generate exposure to significant traffic noise sources	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.11-2: The Project would result in exposure to excessive railroad noise sources	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.11-3: The Project would result in the generation of excessive stationary noise sources	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.11-4: The Project would result in an increase in construction noise sources	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.11-5: The Project would result in construction vibration	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.11-6: The Project would result in exposure to groundborne vibration	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1: The proposed Project would not result in result in adverse physical impacts on the environment associated with the need for new governmental facilities or the need for new	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
or physically altered governmental facilities, the construction of which could cause significant environmental impacts			
Impact 3.12-2: The Project would not result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
TRANSPORTATION AND CIRCULATION			
Impact 3.13-1: General Plan implementation would result in VMT increases that are greater than 85 percent of Baseline conditions	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	SU
Impact 3.13-2: General Plan implementation would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities	LS	*None Required*	LS
Impact 3.13-3: General Plan implementation would not increase hazards due to a design feature, incompatible uses, or inadequate emergency access	LS	*None Required*	LS
UTILITIES AND SERVICE SYSTEMS			
Impact 3.14-1: General Plan implementation would not result in insufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry, and multiple dry years	LS	*None Required*	LS
Impact 3.14-2: General Plan implementation would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS	*None Required*	LS
Impact 3.14-3: General Plan implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	LS	*None Required*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.14-4: General Plan implementation would not require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects	LS	*None Required*	LS
Impact 3.14-5: General Plan implementation would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects	LS	*None Required*	LS
Impact 3.14-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure	LS	*None Required*	LS
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Cumulative degradation of the existing visual character of the region	PS	*General Plan Goals and Policies mitigate this impact to a less than significant level.*	LCC
Impact 4.2: Cumulative impact to agricultural lands and resources	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU
Impact 4.3: Cumulative impact on the region's air quality	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU
Impact 4.4: Cumulative loss of biological resources, including habitats and special status species	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	LCC
Impact 4.5: Cumulative impacts on known and undiscovered cultural resources	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU
Impact 4.6: Cumulative impacts related to geology and soils	PS	*General Plan Goals and Policies mitigate this impact to a less than significant level.*	LCC

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU
Impact 4.8: Cumulative impacts related to hazardous materials and human health risks	PS	*General Plan Goals and Policies mitigate this impact to a less than significant level.*	LCC
Impact 4.9: Cumulative impacts related to hydrology and water quality	PS	*General Plan Goals and Policies mitigate this impact to a less than significant level.*	LCC
Impact 4.10: Cumulative impacts related to local land use, population, and housing	PS	*General Plan Goals and Policies mitigate this impact to a less than significant level.*	LCC
Impact 4.11: Cumulative impacts related to mineral resources	LS	*None Required*	LCC
Impact 4.12: Cumulative impacts related to noise	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU
Impact 4.13: Cumulative impacts to public services and recreation	LS	*None Required*	LCC
Impact 4.14: Cumulative impacts on the transportation network	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU
Impact 4.15: Cumulative impacts related to utilities	LS	*None Required*	LCC
Impact 4.17: Irreversible and adverse effects	PS	*Mitigated to the greatest extent feasible through General Plan Goals and Policies. No additional feasible mitigation is available.*	CC and SU

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *SU – significant and unavoidable*

This page left intentionally blank.

1.1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate change and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 et seq.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

CITY OF MODESTO GENERAL PLAN

Adoption of the 2019 General Plan

In 2011, the City of Modesto launched its most recent City-initiated General Plan Update, after being awarded a US HUD-DOT-EPA federal planning grant as one of 14 San Joaquin Valley cities known as the Smart Valley Places (SVP) consortium. The comprehensive General Plan update was a multi-year project that ultimately resulted in changes to nearly every chapter, section, and element of Modesto's General Plan. The City certified a Master EIR on March 6, 2019 and adopted the Modesto Urban Area General Plan (UAGP).

The adopted UAGP is Modesto's long-term, comprehensive guide for development. Its 40,600-acre planning area reaches beyond the city limits and sphere of influence. The UAGP Growth Strategy establishes three geographic areas within the plan: (1) the Downtown Area; (2) the Baseline Developed Area; and, (3) the Planned Urbanizing Area. The adopted UAGP includes a comprehensive set of goals, policies and exhibits that establish the direction, scale / magnitude and priorities associated with Modesto's growth and development.

Amendments to the 2019 General Plan

Since adoption of the UAGP in 2019, the City has approved amendments to the UAGP from time to time, as internal and external factors resulted in a need to update the document or maps. Examples of internal factors may include changing priorities and recognition of new opportunities; external factors may include new state laws and changing physical conditions or property owner requests – both development-related and environmental. In addition, the passage of time also results in a need to update the UAGP, as the document includes a "horizon date" or timeframe for which it is meant to be applicable.

Current Efforts to Update General Plan

The City of Modesto is currently embarking on a new comprehensive update to the UAGP that will look toward the City's long-term future to reflect the issues, ideas, and aspirations of today, and plan toward the year 2050. That UAGP Update is in the early stages of a multi-year process, and is not anticipated to conclude until 2026 or later.

Lapse of the 2019 Master EIR

The Master EIR for the currently adopted UAGP was certified by the City in 2019, and has a five-year certification period. The Master EIR lapsed on March 6, 2024. The City desires to ensure that there is a valid and certified EIR for the currently adopted UAGP. To accomplish this, there were three options considered by the City. Each are listed below:

The first option to consider where a Master EIR has lapsed is a renewal by way of a reevaluation of the Master EIR. Under this scenario, the City would evaluate the adequacy of the Master EIR as it relates to future development assumed under the General Plan. The City would need to decide as to whether there are substantial changes that have occurred with respect to the circumstances under which the Master EIR was certified. The main question to consider would be, "*is there new information, which was not known and could not have been known at the time that the Master EIR was certified has become available*." In the Laurel Heights decision, the California Supreme Court noted that the CEQA Guidelines "*generally define 'new information' as information which shows that the project will have new or more severe 'significant effects' on the environment not disclosed in the prior EIR*." (Laurel Heights Improvement Association v. Regents of the University of California (1993) 6 Cal.4th 1112, citing Guidelines Section 15162(a)(3)). The findings should be supported by substantial evidence in the record. One major consideration in the reevaluation of the Master EIR should be new laws that have come into effect, such as SB743, that were not in effect at the time

the EIR was certified. This new law redefined the methodology and thresholds for traffic analyses to a VMT standard. The City's 2019 Master EIR did not include a VMT analysis that meets the standard of law currently in place for traffic analyses. Based on this fact, City determined that they could not make the written findings necessary to recertify the Master EIR under a renew/reevaluation.

A second option considered would require the City to certify a "*a subsequent or supplemental EIR which has been either incorporated into the previously certified Master EIR, or references any deletions, additions, or other modifications to the previously certified Master EIR*." Under this scenario, a new EIR would be prepared that is focused on addressing the new information that was not known at the time the Master EIR was certified. For example, a VMT analysis would be prepared to address the requirements of SB743. There would also be other topics that would also need to be updated to address changes that have occurred like a new Air Quality/GHG analysis to address additional growth that has been approved through General Plan amendments and rezones. The process for certifying a *subsequent or supplemental EIR* is generally the same as any other EIR type, but the content of the EIR is limited to only the new information that needs to be addressed. This was considered a valid option for consideration.

The third option considered would be to prepare a new EIR that reflects the adopted General Plan, all GP amendments and rezones that have occurred since GP adoption, and anticipated GP amendments and rezones that are under review. This option has the benefit of resulting in a single EIR for the benefit of the General Plan, as opposed to Option 2 which would result in a combination of multiple EIRs. It is notable that one of the "*Practical Considerations*" outlined by Office of Planning and Research (OPR) for use of Master EIRs is the timetable for the project under consideration. OPR indicates that Master EIRs can be useful for projects that have a "*timetable for undertaking the project and subsequent related actions is 5 years or less, and provision is made for regular review of the Master EIR's adequacy in light of subsequent projects not described in the Master EIR*." Given that a General Plan typically has a 20- or 30-year planning horizon, it would require the City to regularly renew the General Plan Master EIR, which adds a variety of direct and indirect costs to have a valid certified General Plan EIR every five years. A new Program-level EIR would alleviate any need to renew or reevaluate the General Plan EIR going forward and would leave the City with a single EIR. A new EIR could reuse existing information and data from the Master EIR that remains relevant and unchanged, and would supplement the data/analysis where necessary to address the new information that is necessary. This was considered a valid option for consideration.

Decision to prepare and certify a new Program EIR

After consideration of the three options to create a valid and certified EIR, the City decided to pursue Option 3 and prepare a new EIR that reflects the adopted General Plan, and all General Plan amendments and rezones that have occurred since the 2019 General Plan. The new EIR will alleviate any need to renew or reevaluate the General Plan EIR going forward and would leave the City with a single EIR. The new EIR could reuse existing information and data from the Master EIR

that remains relevant and unchanged, and will supplement the data/analysis where necessary to address the new information that is necessary.

1.2 PURPOSE OF THE EIR

The City of Modesto, as lead agency, determined that the UAGP is a "project" within the meaning of CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. The City certified a Master EIR in 2019, but since that time new requirements for environmental analysis have occurred that warrant additional analysis of the UAGP.

CEQA Guidelines section 15162 sets forth the conditions and facts that require a public agency, in considering project changes or changed circumstances relating to a project that was the subject of a previously certified Final Environmental Impact Report (EIR), to prepare a so-called "subsequent EIR." When an EIR has been certified, a subsequent EIR is required if (PRC Section 21166; CEQA Guidelines Section 15162):

(1) "Substantial changes are proposed in the project which will require major revisions" to the EIR "due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;"

(2) "Substantial changes occur with respect to the circumstances," and those changes will require "major revisions" to the EIR "due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;" or

(3) "New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time" of preparation of the EIR, becomes available. Such information must show either: the project will have one or more significant effects not discussed in the previous EIR; significant effects previously examined will be substantially more severe; mitigation measures or alternatives previously found to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As one court explained in 2021, "…a subsequent EIR is necessary '[w]hen the previous EIR must be rewritten from the ground up to make its environmental analysis adequate." (*California Coastkeeper Alliance v. State Lands Commission* (2021) 64 Cal.App.5th 36, 59, quoting 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2d ed. 2019) § 19.5, p. 19-9 and *City of Irvine v. County of Orange* (2015) 238 Cal.App.4th 526, 539.)

Given that the 2019 Master EIR's five-year certification period has lapsed, combined with regulatory changes associated with SB743, which redefined the methodology and thresholds for traffic analyses to a VMT standard, the City determined that there is there *new information* that has become available, which was not known and could not have been known at the time that the Master EIR was certified because it did not exist. In the Laurel Heights decision, the California Supreme Court noted that the CEQA Guidelines "*generally define 'new information' as information which shows that the project will have new or more severe 'significant effects' on the environment not disclosed in the prior EIR*." (Laurel Heights Improvement Association v. Regents of the University of California (1993) 6 Cal.4th 1112, citing Guidelines Section 15162(a)(3)). Given that the City's 2019 Master EIR did not include a VMT analysis that meets the standard of law currently in place for traffic analyses, impact significance could not be determined. A new Program-level EIR would evaluate the impacts related to the new information (i.e. VMT) that was not known when the 2019 EIR was prepared. The new EIR reuses existing information and data from the Master EIR that remains relevant and unchanged, and supplements the data/analysis where necessary to address the new information that is necessary.

1.3 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

"A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically;
2) As logical parts in the chain of contemplated actions;
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

The program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and the analysis in this EIR, as required under CEQA. It may be determined that some future projects or

infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

1.4 INTENDED USES OF THE EIR

The City of Modesto, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from adoption of the General Plan and subsequent implementation of projects consistent with the General Plan. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other agencies within Stanislaus County.

ANTICIPATED SUBSEQUENT PROJECTS

CEQA Guidelines Section 15183 allows a streamlined environmental review process for projects that are consistent with the densities established by existing zoning, community plan or general plan policies for which an Environmental Impact Report (EIR) was certified. As noted above, the proposed Project is consistent with the land use designation and densities established by the Stockton General Plan, for which an EIR was certified. The provisions contained in Section 15183 of the CEQA Guidelines are presented below.

15183. Projects Consistent with a Community Plan or Zoning

(a) CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.

(b) In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

(1) Are peculiar to the project or the parcel on which the project would be located,
(2) Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,
(3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or
(4) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

(c) If an impact is not peculiar to the parcel or to the project, has been addressed as a significant effect in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development policies or standards, as contemplated by subdivision (e) below, then an additional EIR need not be prepared for the project solely on the basis of that impact.

(d) This section shall apply only to projects which meet the following conditions:

(1) The project is consistent with:

(A) A community plan adopted as part of a general plan,
(B) A zoning action which zoned or designated the parcel on which the project would be located to accommodate a particular density of development, or
(C) A general plan of a local agency, and

(2) An EIR was certified by the lead agency for the zoning action, the community plan, or the general plan.

(e) This section shall limit the analysis of only those significant environmental effects for which:

(1) Each public agency with authority to mitigate any of the significant effects on the environment identified in the planning or zoning action undertakes or requires others to undertake mitigation measures specified in the EIR which the lead agency found to be feasible, and
(2) The lead agency makes a finding at a public hearing as to whether the feasible mitigation measures will be undertaken.

(f) An effect of a project on the environment shall not be considered peculiar to the project or the parcel for the purposes of this section if uniformly applied development policies or standards have been previously adopted by the City or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies or standards will not substantially

mitigate the environmental effect. The finding shall be based on substantial evidence which need not include an EIR. Such development policies or standards need not apply throughout the entire City or county, but can apply only within the zoning district in which the project is located, or within the area subject to the community plan on which the lead agency is relying. Moreover, such policies or standards need not be part of the general plan or any community plan, but can be found within another pertinent planning document such as a zoning ordinance. Where a City or county, in previously adopting uniformly applied development policies or standards for imposition on future projects, failed to make a finding as to whether such policies or standards would substantially mitigate the effects of future projects, the decision-making body of the City or county, prior to approving such a future project pursuant to this section, may hold a public hearing for the purpose of considering whether, as applied to the project, such standards or policies would substantially mitigate the effects of the project. Such a public hearing need only be held if the City or county decides to apply the standards or policies as permitted in this section.

(g) Examples of uniformly applied development policies or standards include, but are not limited to:

(1) Parking ordinances.
(2) Public access requirements.
(3) Grading ordinances.
(4) Hillside development ordinances.
(5) Flood plain ordinances.
(6) Habitat protection or conservation ordinances.
(7) View protection ordinances.
(8) Requirements for reducing greenhouse gas emissions, as set forth in adopted land use plans, policies, or regulations.

(h) An environmental effect shall not be considered peculiar to the project or parcel solely because no uniformly applied development policy or standard is applicable to it.

(i) Where the prior EIR relied upon by the lead agency was prepared for a general plan or community plan that meets the requirements of this section, any rezoning action consistent with the general plan or community plan shall be treated as a project subject to this section.

(1) "Community plan" is defined as a part of the general plan of a City or county which applies to a defined geographic portion of the total area included in the general plan, includes or references each of the mandatory elements specified in Section 65302 of the Government Code, and contains specific development policies and implementation measures which will apply those policies to each involved parcel.
(2) For purposes of this section, "consistent" means that the density of the proposed Project is the same or less than the standard expressed for the involved parcel in the general plan, community plan or zoning action for which an EIR has been certified, and that the project complies with the density-related standards contained in that plan or zoning.

Where the zoning ordinance refers to the general plan or community plan for its density standard, the project shall be consistent with the applicable plan.

(j) This section does not affect any requirement to analyze potentially significant offsite or cumulative impacts if those impacts were not adequately discussed in the prior EIR. If a significant offsite or cumulative impact was adequately discussed in the prior EIR, then this section may be used as a basis for excluding further analysis of that offsite or cumulative impact.

Anticipated Future Projects

There are a variety of future projects that the City anticipates to be within the scope of this EIR, unless it later finds that any of the conditions of CEQA Guidelines Section 15183(b) are relevant to the future project. The project types are listed below:

- Sphere-of-Influence Amendment
- Annexation
- Specific Plans/Community Plans
- Zoning
- Conditional Use Permits
- Development Plan Review (Authorized under Section 10-9.1005 of the Modesto Municipal Code)
- Conditional Use Permits (Authorized under Section 10-9.701 of the Modesto Municipal Code)
- Variances (Authorized under Section 10-9.601 of the Modesto Municipal Code)
- Building Permits (Authorized under Title 9 of the Modesto Municipal Code)
- Subdivisions
- Development Agreements
- Capital Improvement Program
- Parks Facilities Plans
- Household Hazardous Waste Element
- Source Reduction and Recycling Element
- Public Facilities Financing Plans

1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purposes of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the General Plan, implementation of future projects within Modesto may require permits and approvals from such agencies, which may include the following:

- Stanislaus County Local Agency Formation Commission (sphere of influence amendment and annexation)
- Stanislaus County Planning and Community Development (airport land use plan, IWMP, rezoning, County General Plan, or community plan amendment)
- California Department of Fish and Wildlife (streambed alteration agreement and incidental "take" permit)
- California Department of Public Health (water supply permits)
- California Department of Transportation (road widenings, highway encroachment permits, and airport expansion)
- State Lands Commission (lease of public trust lands)
- State Water Resources Control Board (biosolids permits)
- State Department of Water Resources, Reclamation Board (floodplain and levee encroachment permits)
- Regional Water Quality Control Board (waste discharge requirements, National Pollutant Discharge Elimination System permits, and Clean Water Act certifications)
- California Public Utilities Commission (construction or alteration of a railroad crossing)
- Modesto Irrigation District

1.6 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

The City of Modesto circulated a Notice of Preparation (NOP) of an EIR for the proposed project on September 27, 2024 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on October 11, 2024. No public or agency comments on the NOP related to the EIR analysis were presented or submitted during the scoping meeting. However, during the 30-day public review period for the NOP, which ended on October 27, 2024, three written comment letters were received on the NOP. A summary of the NOP comments is provided later in this chapter. The NOP and all comments received on the NOP are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of the project's direct and indirect impacts on the environment and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Modesto will file

the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the City of Modesto will provide a public notice of availability for the Draft EIR, and invite comment from the public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Michael Hren, AICP, Principal Planner
City of Modesto
209-577-5273
1010 10th St.
Modesto, CA 95354
mhren@modestogov.com

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to both oral and written comments received during the public review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Modesto City Council will review and consider the Final EIR. If the City finds that the Final EIR is "adequate and complete," the City Council may certify the Final EIR in accordance with CEQA. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed project that intelligently take account of environmental consequences.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or deny the project. It the EIR determines that the project would result in significant adverse impacts to the environment that cannot be mitigated to less than significant levels, the City Council would be required to adopt a statement of overriding considerations as well as written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. If additional mitigation measures are required (beyond the General Plan policies and actions that reduce potentially significant impacts, as identified throughout this EIR), a Mitigation Monitoring and Reporting Program (MMRP) would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. The MMRP would be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.7 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures for any significant impacts, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The EIR prepared reviews environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the city of Modesto, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed project.

CHAPTER 1.0 - INTRODUCTION

Chapter 1.0 briefly describes the proposed project, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

CHAPTER 2.0 - PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the

environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics/Visual Resources
- Agricultural and Forest Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning and Population/Housing
- Mineral Resources
- Noise
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

CHAPTER 4.0 - OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental effects.

CHAPTER 5.0 - ALTERNATIVES

Chapter 5.0 provides a comparative analysis between the merits of the proposed project and the selected alternatives. State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain the basic objectives of the project and avoid and/or lessen any significant environmental effects of the project.

CHAPTER 6.0 - REPORT PREPARERS

Chapter 6.0 lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City received three comment letters on the NOP. Copies of these letters are provided in Appendix A of this Draft EIR and the comments are summarized in the Executive Summary chapter. The City received the following comment letters.

- San Joaquin Air Pollution Control District (October 25, 2024)
- Salida Fire Protection District (October 28, 2024)
- Central Valley Regional Water Quality Control Board (October 28, 2024)

2.1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate change and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 et seq.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

CITY OF MODESTO GENERAL PLAN

Adoption of the 2019 General Plan

In 2011, the City of Modesto launched its most recent City-initiated General Plan Update, after being awarded a US HUD-DOT-EPA federal planning grant as one of 14 San Joaquin Valley cities known as the Smart Valley Places (SVP) consortium. The comprehensive General Plan update was a multi-year project that ultimately resulted in changes to nearly every chapter, section, and element of Modesto's General Plan. The City certified a Master EIR on March 6, 2019 and adopted the Modesto Urban Area General Plan (UAGP).

The adopted UAGP is Modesto's long-term, comprehensive guide for development. Its 40,600-acre Planning Area reaches beyond the city limits and sphere of influence. The UAGP Growth Strategy establishes three geographic areas within the plan: (1) the Downtown Area; (2) the Baseline Developed Area; and, (3) the Planned Urbanizing Area. The adopted UAGP includes a

comprehensive set of goals, policies and exhibits that establish the direction, scale / magnitude and priorities associated with Modesto's growth and development.

Amendments to the 2019 General Plan and Zoning Code

Since adoption of the UAGP in 2019, the City has approved amendments to the UAGP from time to time, as internal and external factors resulted in a need to update the document or maps. Examples of internal factors may include changing priorities and recognition of new opportunities; external factors may include new state laws and changing physical conditions or property owner requests – both development-related and environmental.

One recent change to the UAGP that is prompting the preparation of this EIR, changes made in the City of Modesto's 2023-2031 6th Cycle Housing Element. This Housing Element sets forth the City's overall housing objectives in the form of goals, policies, and programs. One specific program provided in the Housing Element required amendments to the zoning ordinance to rezone four corridors to mixed-use, and to change zoning densities to allow more residential development. Per Housing Element Program A-2, the City rezoned parcels on McHenry, Sisk, Oakdale, and Yosemite to new Mixed-Use-Pedestrian (MU-P) and Mixed-Use-Highway (MU-H) zones, and modified P-D parcels to allow for 45 du/ac in order to create a net new capacity for 21,014 units within the City. This is an added capacity of almost twice the RHNA of 11,248, and almost three times the remaining RHNA need after factoring in pending projects and ADUs. These zoning amendments were completed in December 2023. Beyond these zoning amendments, the Housing Element also directed the City to increase the maximum density of the R-1 zone from 7.5 to 10.9, the R-2 zone from 14.5 to 22, and the maximum density of the R-3 zone from 29 to 45, as noted in Program A-3. This will also create opportunity for higher density residential development throughout the City. The Housing Element further directed the City to amend the zoning code to allow duplexes to be approved ministerially on all lots in the R-1 zone with a single-family residential use, as noted in Program A-11. The City intends to implement this program by making duplexes a permitted use in the R-1 zone and performing its ministerial review through the existing Building Permit process.

The amendments to the Zoning Code were intended to occur across all opportunity categories, with specific geographic targeting in the higher resource areas. About 45 percent of the rezone area (13,774 units) is in high or higher resource areas, creating substantial new opportunities for housing mobility, new housing choices, affordability, and lower-income housing in eastern and northern neighborhoods. About 33 percent of the land area of the City was in an area of high or highest resource. As about 45 percent of the rezone area is in an area of high or highest resource, the rezone is promoting housing mobility and housing choice in higher resource areas at a disproportionately higher rate than the City's existing state. The City determined that the amendments to the Zoning Code were significant and meaningful enough to overcome currently identified patterns and trends.

The Housing Element indicated that the increase the densities of the R-1, R-2, and R-3 zones were intended to ensure there is continuity of permitted densities between residential zones and align more closely with recommended densities in the General Plan. Table 2.0-1 provides the Zoning and Density Guidance as directed in Program A-4.

TABLE 2.0-1: ZONING AND DENSITY GUIDANCE

GENERAL PLAN LAND USE DESIGNATION	*EXISTING DENSITY*	*PROPOSED DENSITY*
Low Density Residential (R-1)	Up to 7.5 du/ac	Less than 10.9 du/ac
Medium Density Residential (R-2)	10.9 to 14.5 du/ac	10.9 to 22 du/ac
Medium High Density Residential (R-3)	21.8 to 29 du/ac	22 to 45 du/ac
Mixed Use (MU)	Average 14 du/ac	Average 14 du/ac[1]
Mixed-Use-Pedestrian (MU-P)	N/A	22 to 45 du/ac[2]
Mixed-Use-Highway (MU-H)	N/A	22 to 45 du/ac[2]
Downtown (D)	FAR: 1 - 14	FAR: 1 - 14
Village Residential (VR)	6.6 du/ac	6.6 du/ac
Business-Commercial-Residential (BCR)	30% of ac	30% of ac
Open Space (OS)	1 du/10 ac	1 du/10 ac

SOURCE: CITY OF MODESTO, GENERAL PLAN COMMUNITY DEVELOPMENT POLICIES, 2019, AND 2023-2031 6TH CYCLE HOUSING ELEMENT.

[1]The RHNA and zoning is not reliant on the 14 du/ac. This land use designation reflects previously existing uses. The average of 14 du/ac was originally intended to be an average of the whole land use designation area, and is not enforced on a project-by-project basis. The new mixed-use zones will reflect new densities.

[2]The Mixed- Use Zones allow a range of high-density development up to 45 du/ac.

Current Project

The project analyzed in the EIR consists of two parts. First, the City will examine, at a project level, proposed amendments to the General Plan land use designations to ratify and conform the General Plan land use designations with the changes adopted in the General Plan's Housing Element. This would include amendments to UAGP Chapter III Community Development Policies. The amendments to Chapter III include:

- Revisions to Section B. Adopted General Plan Land Use Designations to reflect the updated densities as follows.
    - Table III-1 General Plan Land Use Designations on page III-2will be updated under the Residential Density Guidance and Population Intensity columns to reflect the density and intensity changes.
    - Section B.1.C (Residential-R) on page III-3 will be updated to reflect the density and intensity changes.
    - Section B.2.C (Mixed Use-MU) on page III-3 will be updated to reflect the new "Mixed Use-Pedestrian and Mixed Use-Highway" uses, as well as the associated density and intensity changes.
    - Section B.6.C (Village Residential -VR) on page III-5 will be updated
- Revisions to Section D. Comprehensive Planning Districts to reflect the updated densities as follows.

- Exhibit III-1, Page 1 of 2: Comprehensive Planning Districts Summary will be updated under the dwelling units column to reflect the density and intensity changes. (page III-20)
- Exhibit III-1, Page 2 of 2: Comprehensive Planning Districts Summary will be updated under the dwelling units column to reflect the density and intensity changes. (page III-21)

Approval of these changes will create internal consistency within the General Plan and the density changes approved in the Housing Element Update. Rejection of these changes would mean the City would need to look at new/different changes to the Housing Element in order to comply with the City's housing obligations.

In addition to the above General Plan amendment changes, the City will examine environmental topics in light of legislative directives that have changed since the 2019 EIR was certified. For instance, the traffic analysis in the 2019 EIR is a level of service analysis, whereas the State has directed the City to instead perform a Vehicle Miles Traveled analysis.

Other Efforts to Update General Plan

The City of Modesto is currently embarking on a new comprehensive update to the UAGP that will look toward the City's long-term future to reflect the issues, ideas, and aspirations of today, and plan toward the year 2050. That UAGP Update is in the early stages of a multi-year process, and is not anticipated to conclude until 2026 or later. This EIR is not intended to cover the Update to the General Plan.

2.2 PURPOSE OF THE EIR

The City of Modesto, as lead agency, determined that the density changes from Housing Element Programs A-2 and A-4, which changed the maximum and realistic densities expected to be developed within the existing General Plan land uses, is a "project" within the meaning of CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. The City certified a Master EIR in 2019, but since that time the City has adopted programs directing increases to residential densities.

CEQA Guidelines section 15162 sets forth the conditions and facts that require a public agency, in considering project changes or changed circumstances relating to a project that was the subject of a previously certified Final Environmental Impact Report (EIR), to prepare a so-called "subsequent EIR." When an EIR has been certified, a subsequent EIR is required if (PRC Section 21166; CEQA Guidelines Section 15162):

(1) "Substantial changes are proposed in the project which will require major revisions" to the EIR "due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;"

(2) "Substantial changes occur with respect to the circumstances," and those changes will require "major revisions" to the EIR "due to the involvement of new significant

environmental effects or a substantial increase in the severity of previously identified significant effects;" or

(3) "New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time" of preparation of the EIR, becomes available. Such information must show either: the project will have one or more significant effects not discussed in the previous EIR; significant effects previously examined will be substantially more severe; mitigation measures or alternatives previously found to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As one court explained in 2021, "…a subsequent EIR is necessary '[w]hen the previous EIR must be rewritten from the ground up to make its environmental analysis adequate." (*California Coastkeeper Alliance v. State Lands Commission* (2021) 64 Cal.App.5th 36, 59, quoting 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2d ed. 2019) § 19.5, p. 19-9 and *City of Irvine v. County of Orange* (2015) 238 Cal.App.4th 526, 539.)

The City determined that the density increases directed by the Housing Element, combined with the regulatory changes associated with SB 743, collectively qualify as *new information* that has become available, which was not known and could not have been known at the time that the Master EIR was certified because it did not exist. In the Laurel Heights decision, the California Supreme Court noted that the CEQA Guidelines "*generally define 'new information' as information which shows that the project will have new or more severe 'significant effects' on the environment not disclosed in the prior EIR*." (Laurel Heights Improvement Association v. Regents of the University of California (1993) 6 Cal.4th 1112, citing Guidelines Section 15162(a)(3)). A new Program-level EIR would evaluate the impacts related to the new information (i.e. density changes and VMT) that was not known when the 2019 EIR was prepared. The new EIR reuses existing information and data from the Master EIR that remains relevant and unchanged, and supplements the data/analysis where necessary to address the new information that is necessary. The City will also examine, at a project level, the proposed changes to the General Plan's land use designations to accommodate the changes contemplated by the City's recently revised Housing Element.

2.3 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

"A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically;
2) As logical parts in the chain of contemplated actions;
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

The program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and the analysis in this EIR, as required under CEQA. It may be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

2.4 INTENDED USES OF THE EIR

The City of Modesto, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis that reflects an update to the 2019 EIR to reflect new information and changes that have occurred since the 2019 General Plan EIR was certified. Ultimately, the City intends to use this EIR to implement the General Plan and subsequent projects consistent with the General Plan. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other agencies within Stanislaus County.

In addition, this EIR will examine, at a project level, the proposed changes to the General Plan's land use designations to accommodate the changes contemplated by the City's recently revised Housing Element. This analysis will be used to inform the City Council of any environmental impacts associated with such changes.

ANTICIPATED SUBSEQUENT PROJECTS

CEQA Guidelines Section 15183 allows a streamlined environmental review process for projects that are consistent with the densities established by existing zoning, community plan or general plan policies for which an Environmental Impact Report (EIR) was certified. The City anticipates relying on Section 15183 and other streamlining provisions for future projects.

Anticipated Future Projects

There are a variety of future projects that the City anticipates to be within the scope of this EIR, unless it later finds that any of the conditions of CEQA Guidelines Section 15183(b) are relevant to the future project. The project types are listed below:

- Sphere-of-Influence Amendment
- Annexation
- Specific Plans/Community Plans
- Zoning/Rezoning
- Planned Development Creation/Amendment
- Conditional Use Permits
- Development Plan Review (Under Section 10-9.1005 of the Modesto Municipal Code)
- Conditional Use Permits (Under Section 10-9.701 of the Modesto Municipal Code)
- Variances (Authorized under Section 10-9.601 of the Modesto Municipal Code)
- Building Permits (Authorized under Title 9 of the Modesto Municipal Code)
- Subdivisions
- Development Agreements
- Capital Improvement Program
- Parks Facilities Plans
- Household Hazardous Waste Element
- Source Reduction and Recycling Element
- Public Facilities Financing Plans

2.5 PROJECT LOCATION

Modesto is in Stanislaus County, in the northern San Joaquin Valley, approximately 95 miles east of San Francisco and 80 miles south of Sacramento (See Figure 2-1 Vicinity Map). The City of Ceres is located immediately south of the Modesto city limits, the City of Riverbank is located immediately northeast, and the unincorporated town of Salida is located northwest.

2.6 MODESTO URBAN AREA GENERAL PLAN (UAGP)

UAGP PLANNING AREA

There are two key boundary lines addressed by the UAGP that make up the study area for the EIR. These include the City Limits, and the Planning Area, as shown on Figure 2-2 and described below.

City Limits

Includes the area within the City's corporate boundary, over which the City exercises land use authority and provides public services.

Planning Area

For the purposes of the UAGP, the Planning Area is the geographic area for which the General Plan provides a framework for long-term plans for growth. State law requires the General Plan to include all territory within incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the UAGP includes the entire City Limits, plus areas in the unincorporated areas proximately to the city limits that the City deemed appropriate for development as part of the City Growth Strategy.

UAGP GROWTH STRATEGY

The UAGP Growth Strategy Diagram identifies three subareas within the Modesto Planning Area: the Downtown Area, the Baseline Developed Area, and the Planned Urbanizing Area. These three subareas are illustrated in Figure 2-3. Application of the EIR analyses and mitigating policies varies among these areas. The City's procedures are described as follows.

Downtown Area

The Downtown has been the focal point of planning and zoning efforts, such as establishing the Downtown Zones that facilitate increased development potential both in terms of density / intensity, and in accommodating a broader range of land uses and development types. The purposes of focusing on Downtown for new growth and development are to enhance the economic vitality of the City, reduce costs associated with provision of services and reduce the potentially negative environmental consequences associated with the sprawl-type development patterns that have been commonplace throughout the region over the past century.

Within Downtown, the UAGP would reflect existing zoning. As a result, this area generally would be developed according to the existing zoning designations. If a subsequent project within this area conforms to the proposed UAGP, the initial study for the project would find it to be within the scope of this EIR and no future environmental review would be required unless there could be a project-specific impact that was not analyzed in the EIR.

All mitigation measures adopted as part of the 2019 EIR and applicable to the Downtown Area will be incorporated into the new Program EIR. Additionally, the City will file a notice for future projects where it is found that the future project is within the scope of the new Program EIR.

Baseline Developed Area

The Baseline Developed Area reflects areas that are developed or anticipated to develop according to existing zoning. If a subsequent project within this area conforms to the proposed UAGP, the initial study for the project would find it to be within the scope of this EIR and no future environmental review would be required unless there is a project-specific impact that was not analyzed in the EIR.

All mitigation measures adopted as part of the 2019 EIR and applicable to the Baseline Development Area will be incorporated into the new Program EIR. Additionally, the City will file a notice for future projects where it is found that the future project is within the scope of the new Program EIR.

Planned Urbanizing Area

The Planned Urbanizing Area encompasses the Comprehensive Planning Districts (CPDs) identified in Chapter III of the adopted UAGP. This area accommodates most of the City's growth through 2040, which is the defined planning horizon. For development to proceed in an orderly fashion, development in each CPD would be restricted until a Specific Plan(s) for that CPD has been adopted by the City. The Specific Plan would implement the UAGP policies identified in Chapter III of the UAGP and establish development policies specific to that CPD. This includes the policies requiring adoption of one or more specific plans to specify the intensity and location of development within the CPD. In conjunction with the Specific Plan process, additional environmental analyses and documentation would routinely occur.

UAGP LAND USE MAP

Modesto's UAGP Land Use Map is based on a Growth Strategy that establishes three geographic areas: (1) the Downtown Area; (2) the Baseline Developed Area, generally consisting of lands within the 2014 Modesto city limits, plus the unincorporated Beard Industrial Tract located south of SR132 / Yosemite Blvd., and minus the Village One and Tivoli specific plan areas; and, (3) the Planned Urbanizing Area, consisting of areas outside of the 2014 city limits (plus Village One and Tivoli) and within the Planning Area boundary.

The UAGP Land Use Map is Modesto's long-term, comprehensive guide for development of its Planning Area. Table 2.0-2 presents the existing adopted land uses within the UAGP. Figure 2.4 illustrates the existing General Plan Land Use Map.

TABLE 2.0-2: ACREAGE BY LAND USE DESIGNATION – ADOPTED LAND USE MAP

LAND USE DESIGNATION	*CITY LIMITS*	*PLANNING AREA (OUTSIDE OF CITY)*	*TOTAL ACRES*
Residential Land Uses			
R - Residential	16,718.96	1,983.51	18,702.47
VR - Village Residential	292.29	3,765.58	4,057.87
Mixed Use Land Uses			
MU - Mixed Use	1,521.52	0.01	1,521.52
D - Downtown	712.85	--	712.85

Commercial, Professional, and Industrial Land Uses			
C - Commercial	1,619.68	146.49	1,766.17
RC - Regional Commercial	238.37	655.95	894.32
BCR - Business-Commercial-Residential	204.82	736.31	941.13
I - Industrial	1,187.06	2,591.57	3,778.63
BP - Business Park	381.79	2,697.17	3,078.96
Public Land Uses			
OS - Open Space	1,349.37	1,531.93	2,881.30
Community Plan			
SCP - Salida Community Plan	1.67	4,331.36	4,333.03
Total	**24,228.37**	**18,439.89**	**42,668.26**

SOURCE: CITY OF MODESTO GIS, ADOPTED LAND USE MAP, 2024.

HOUSING CAPACITY CHANGES WITH DENSITY AMENDMENTS

The proposed Project does not change the existing Modesto's UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. The proposed Project does, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). Additionally, the City is amending the zoning code to allow duplexes to be approved ministerially on all lots in the R-1 zone with a single-family residential use (approximately 38,000 lots). The City currently allows duplexes on corner lots in the R-1 Zone by right.

Table 2.0-3 presents the existing and proposed densities and realistic yield for vacant and underutilized parcels within the City limits with these zoning designations. The existing realistic yield is 11,085 units, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This represents an increase of 8,530 units. Figure 2.5 illustrates the location of the vacant and underutilized parcels within the city limits.

TABLE 2.0-3: SUMMARY OF EXISTING AND PROPOSED DENSITY AND UNIT CAPACITY – WITHIN CITY

		EXISTING DENSITIES				*PROPOSED DENSITIES*			
Zoning	*Total Acreage*	*Existing Max Density*	*Realistic Capacity %*	*Existing Realistic Density*	*Units Realistic*	*Proposed Max Density*	*Realistic Capacity %*	*Proposed Realistic Density*	*Units Realistic*
Underutilized-Non-Residential									
MU-H	200.63	--	--	--	13	45.0	17%	7.7	1,535
MU-P	120.89	--	--	--	128	45.0	17%	7.7	925
P-D	313.18	--	--	--	1,543	45.0	17%	7.7	2,396
Subtotal	***634.70***				***1,684***				***4,855***
Vacant- Non-Residential									
MU-H	32.66	--	--	--	115	45.0	70%	31.5	1,029
MU-P	2.46	--	--	--	25	45.0	70%	31.5	78

P-D	12.11	--	--	--	246	45.0	70%	31.5	381
Subtotal	***47.23***				***386***				***1,488***
Specific Plan									
SP (R-1)	1042.51	7.50	80%	6.00	6,255	10.9	80%	8.7	9,091
SP (R-2)	94.77	14.50	70%	10.15	962	22	70%	15.4	1,459
SP (R-3)	47.39	29.00	70%	20.30	962	45	70%	31.5	1,493
Subtotal	***1,184.67***				***8,179***				***12,043***
Residential									
R-1	112.50	7.50	80%	6.00	675	10.9	80%	8.7	981
R-2	4.26	14.50	70%	10.15	43	22	70%	15.4	66
R-3	5.78	29.00	70%	20.30	117	45	70%	31.5	182
Subtotal	***122.54***				***836***				***1,229***
Total	**1,989.15**				**11,085**				**19,615**

SOURCE: CITY OF MODESTO GIS, ADOPTED LAND USE MAP, 2024.

While there is no zoning designations for land outside the city limits, the Residential (R) and Village Residential (VR) represents lands that are anticipated to develop as an R-1, R-2, or R-3 zone if they are annexed into the City. To estimate the housing capacity in the R and VR land use, the proportion of R-1, R-2, and R-3 already developed within the City was calculated. The calculation showed that 88 percent of R and VR land is zoned R-1, 8 percent is zoned R-2, and 2 percent is zoned R-3. These proportions were used to estimate the housing capacity of R and VR lands outside the city limits. Table 2.0-4 presents the existing and proposed densities and realistic yield with these zoning designations. The existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units. Figure 2.5 illustrates the location of the developable R and VR parcels outside the city limits. The City's buildout horizon in the UAGP is 2040.

TABLE 2.0-4: SUMMARY OF EXISTING AND PROPOSED DENSITY AND UNIT CAPACITY – OUTSIDE CITY

		EXISTING DENSITIES				*PROPOSED DENSITIES*			
Zoning	*Total Acreage*	*Existing Max Density*	*Realistic Capacity %*	*Existing Realistic Density*	*Units Realistic*	*Proposed Max Density*	*Realistic Capacity %*	*Proposed Realistic Density*	*Units Realistic*
R-1	3,609.80	7.5	80%	6.00	21,659	10.9	80%	8.7	31,405
R-2	328.16	14.5	70%	10.15	3,331	22	70%	15.4	5,054
R-3	164.08	29	70%	20.30	3,331	45	70%	31.5	5,169
Totals	**4,102.05**				**28,321**				**41,628**

SOURCE: CITY OF MODESTO GIS, ADOPTED LAND USE MAP, 2024.

2.7 UAGP PROJECT OBJECTIVES

The State CEQA Guidelines require that the project description include a statement of the objectives sought by the project (CEQA Guidelines Section 15124.b). In addition to disclosing the project's intent, the objectives help the lead agency select a reasonable range of project

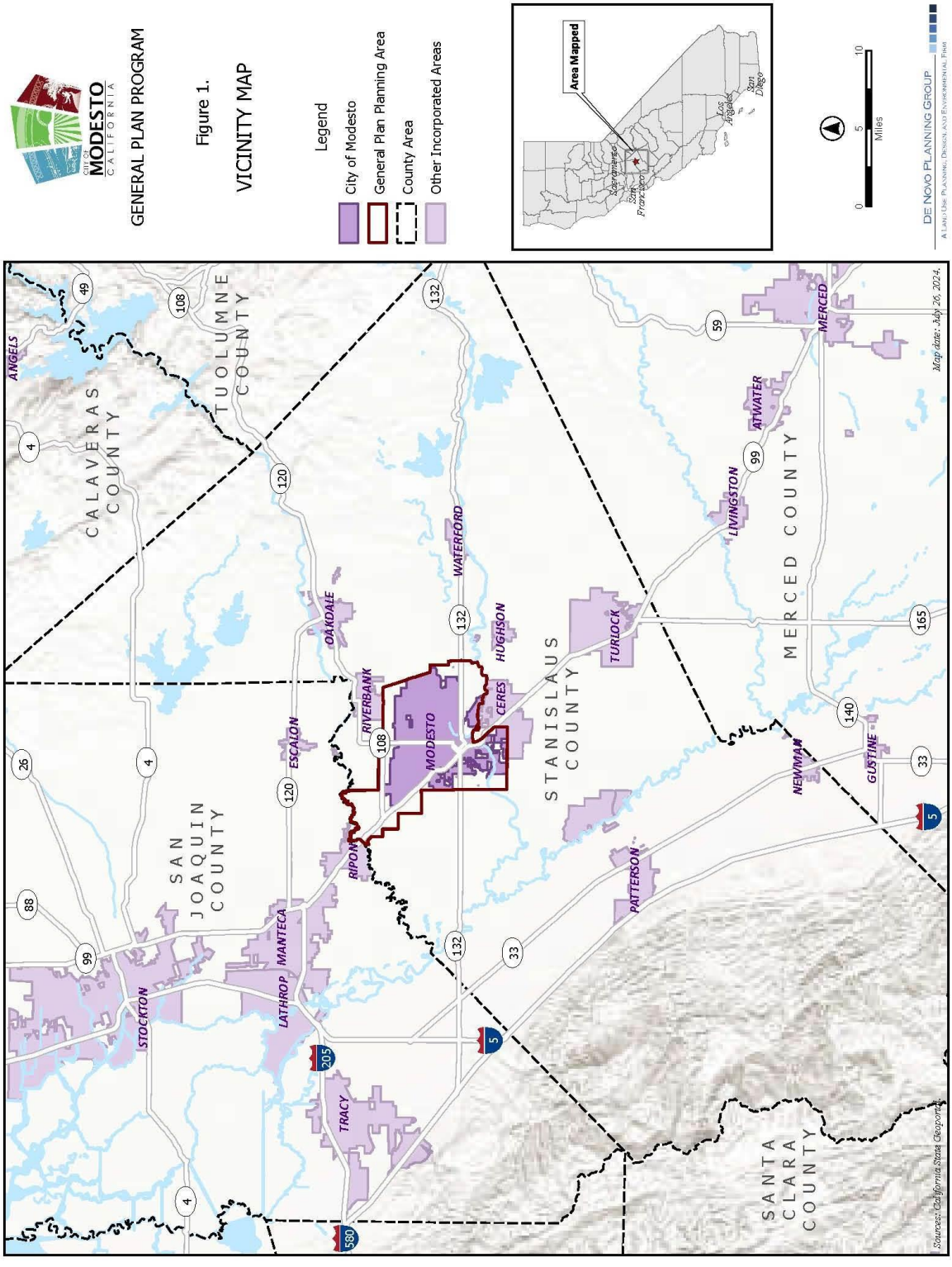
alternatives to be evaluated in the EIR. The objectives may also aid the City in preparing findings or a statement of overriding considerations, if necessary (CEQA Guidelines Section 15124.b).

The overarching goals of the General Plan remains consistent with those described in the 2019 EIR, including: revise the land use element, including the land use diagram, to provide enhanced economic development opportunities as new development occurs; revise the circulation element to provide a mode-balanced and cost-effective transportation system; update policies to reflect applicable state laws and regulations; and, update the General Plan EIR to allow subsequent projects to benefit from streamlined review based on its environmental analysis. Project objectives presented are as follows:

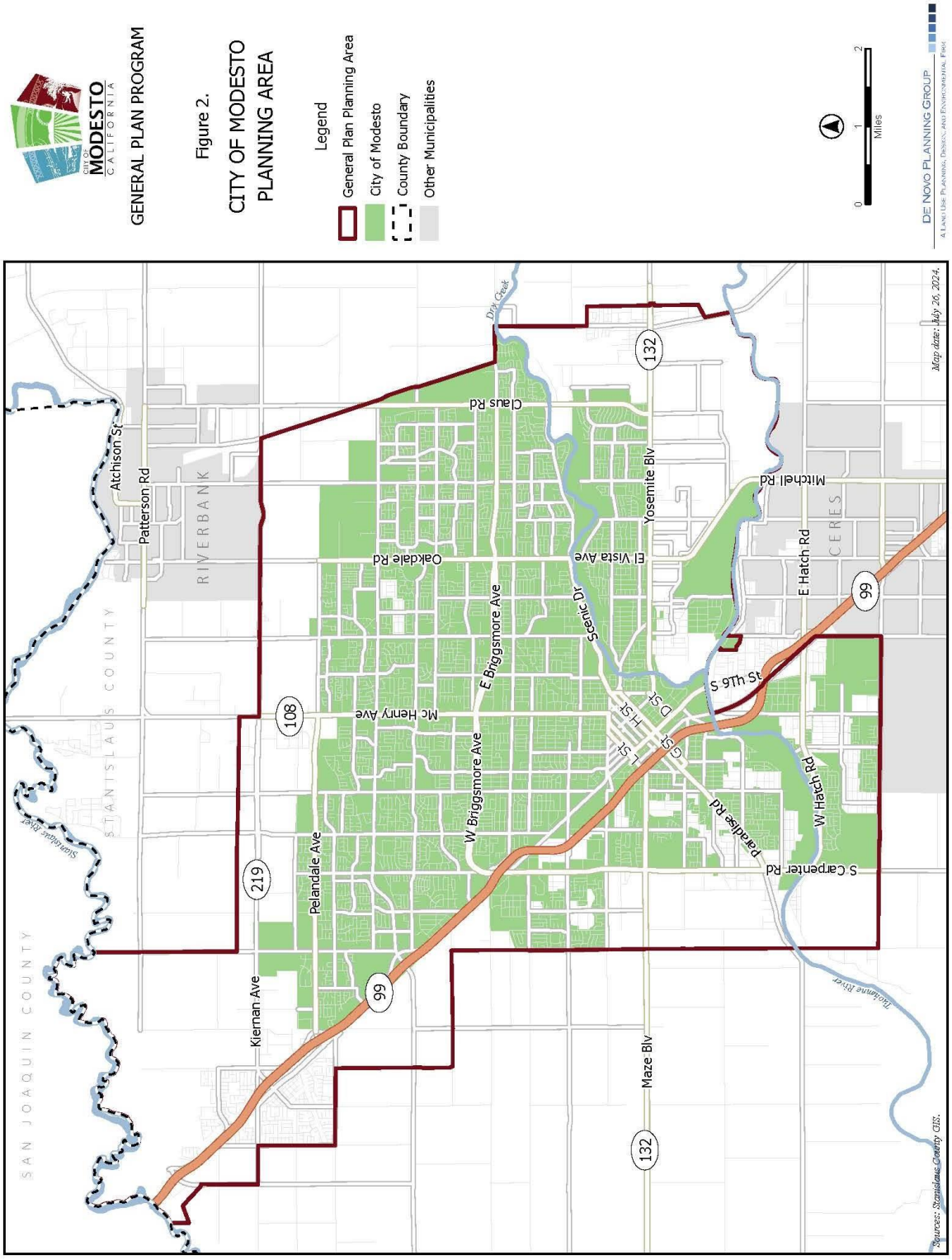
- Amend the land use and zoning densities in accordance with the adopted Modesto Housing Element;
- Comply with new State and Federal laws;
- Provide improved transportation alternatives, including transit, bicycle & pedestrian facilities;
- Facilitate an improved mix of land uses to reduce vehicle miles traveled by locating residential land uses close to employment, retail and services;
- Promote infill development;
- Provide framework for intensified development in Modesto's downtown area;
- Align Modesto's land use and transportation goals and policies;
- Establish a realistic set of assumptions for infrastructure needs and funding;
- Facilitate complete, safe and walkable neighborhoods;
- Provide for a variety of transportation options;
- Promote equitable, affordable housing;
- Support existing neighborhoods / communities; and,
- Maintain the General Plan and Sphere-of-Influence boundaries (for purposes of defining the proposed project to be analyzed under CEQA).

2.8 ADOPTED GENERAL PLAN ELEMENTS

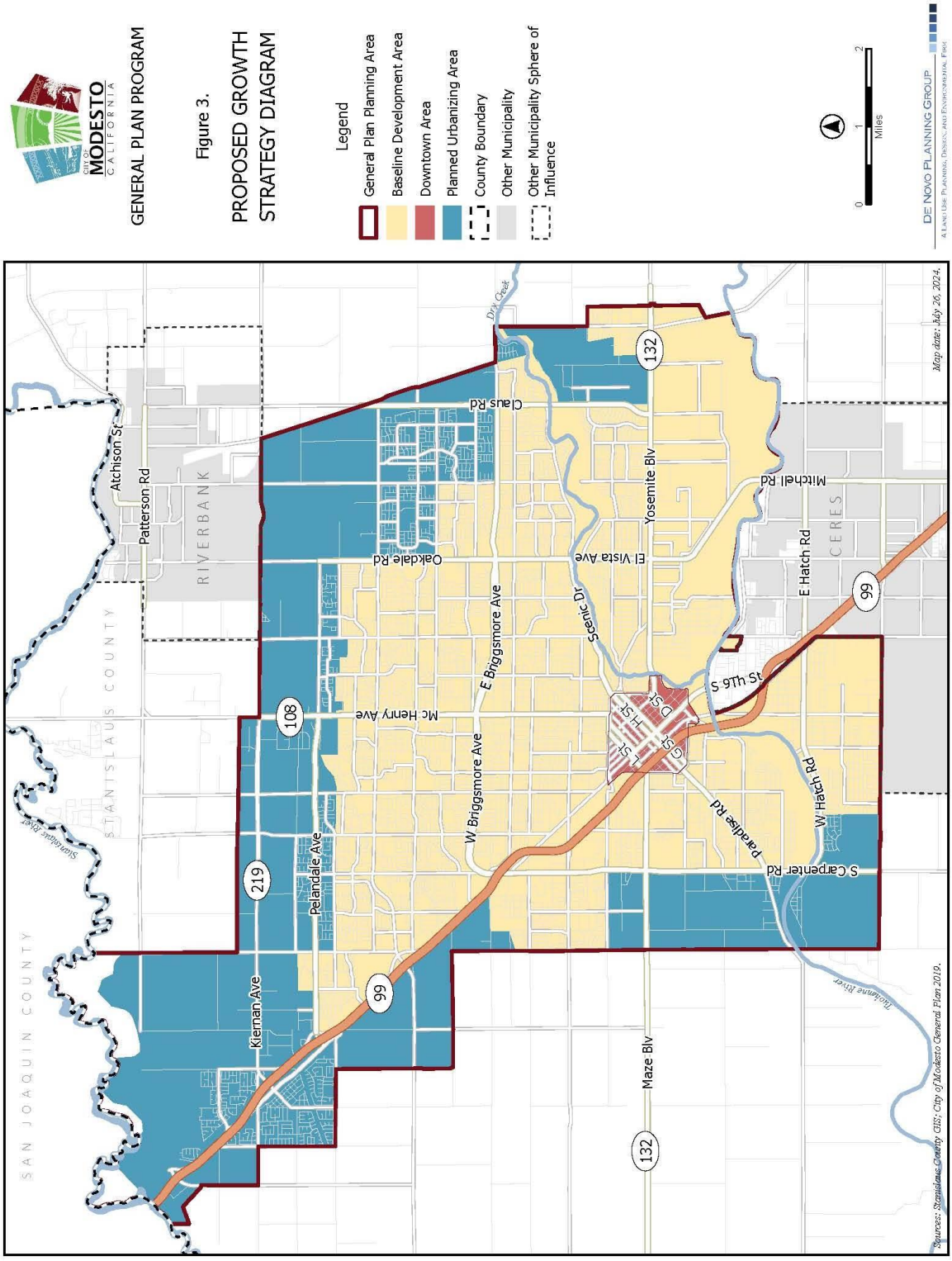
The adopted General Plan includes a comprehensive set of goals, policies, and actions (implementation measures), as well as a Land Use Map. The General Plan includes all the State-mandated elements, including Land Use (addresses Environmental Justice), Circulation, Resource Conservation (combines Open Space, Conservation, and Air Quality topics), and Safety (addresses Climate Adaptation and Noise) as well as optional elements, including Growth Management, Community Design, Economic Development, and Community Facilities and Services. As previously noted, the Housing Element was adopted in December 2023 and certified by HCD in April 2024. The General Plan analyzed under this new Program EIR includes the adopted General Plan, including the recently adopted Housing Element, and is intended to reflect the density changes adopted under Housing Element Program A-2 and A-4.


GENERAL PLAN PROGRAM
Figure 1.
VICINITY MAP
Legend
City of Modesto
General Plan Planning Area
County Area
Other Incorporated Areas
Area Mapped
Los Angeles
San Diego
Sacramento
San Francisco
0
5
10
Miles
DE NOVO PLANNING GROUP
A Land Use Planning, Design, & Environmental Firm
CALAVERAS COUNTY
TUOLUMNE COUNTY
SAN JOAQUIN COUNTY
STANISLAUS COUNTY
MERCED COUNTY
SANTA CLARA COUNTY
ANGELS
OAKDALE
RIVERBANK
WATERFORD
HUGHSON
MODESTO
CERES
TURLOCK
ATWATER
LIVINGSTON
MERCED
ESCALON
RIPON
PATTERSON
NEWMAN
GUSTINE
STOCKTON
MANTECA
LATHROP
TRACY
Map date: July 26, 2024.
Sources: California State Geoportal

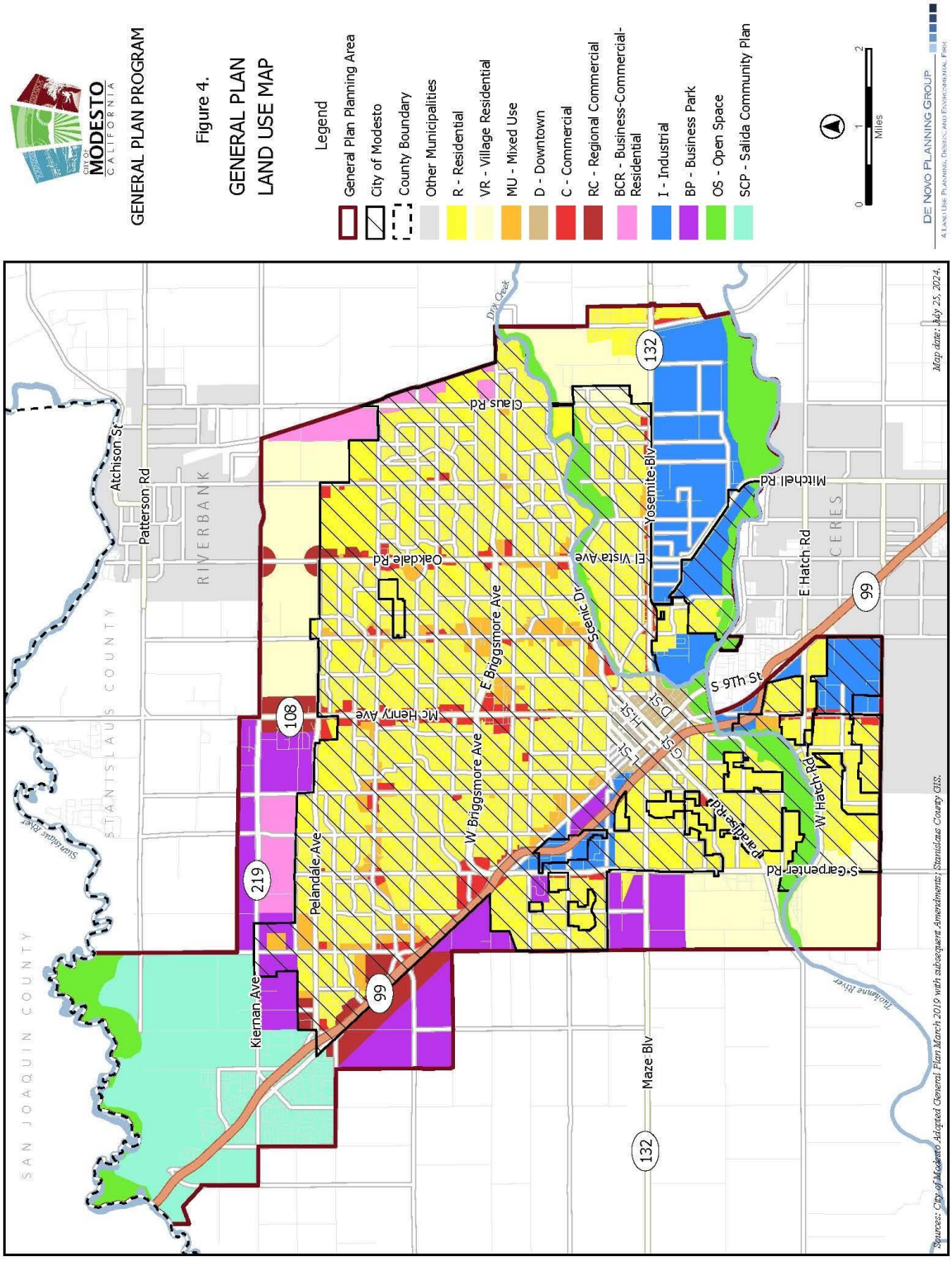
This page left intentionally blank.


GENERAL PLAN PROGRAM
Figure 2.
CITY OF MODESTO
PLANNING AREA
Legend
General Plan Planning Area
City of Modesto
County Boundary
Other Municipalities
Miles
DE NOVO PLANNING GROUP
Map date: July 26, 2024.
Sources: Stanislaus County GIS.
Claus Rd
Atchison St
Patterson Rd
RIVERBANK
Oakdale Rd
Mc Henry Ave
E Briggsmore Ave
W Briggsmore Ave
Scenic Dr
El Vista Ave
Yosemite Blv
Mitchell Rd
E Hatch Rd
CERES
99
132
108
219
Pelandale Ave
Kiernan Ave
Maze Blv
Paradise Rd
W Hatch Rd
S Carpenter Rd
STANISLAUS COUNTY
SAN JOAQUIN COUNTY

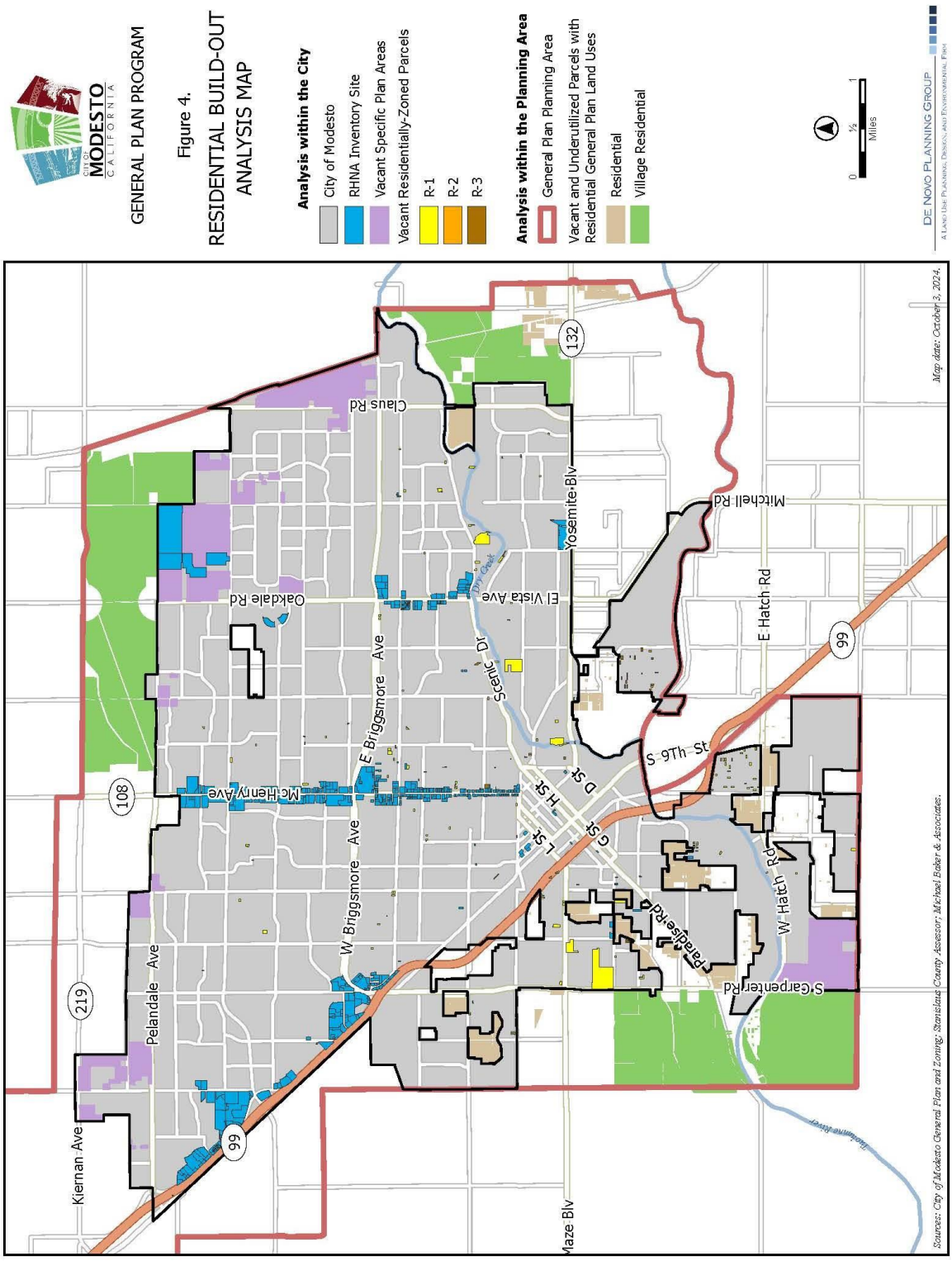
This page left intentionally blank.


GENERAL PLAN PROGRAM
Figure 3.
PROPOSED GROWTH STRATEGY DIAGRAM
Legend
General Plan Planning Area
Baseline Development Area
Downtown Area
Planned Urbanizing Area
County Boundary
Other Municipality
Other Municipality Sphere of Influence
Miles
DE NOVO PLANNING GROUP
Map date: July 26, 2024.
Sources: Stanislaus County GIS; City of Modesto General Plan 2019.
SAN JOAQUIN COUNTY
STANISLAUS COUNTY
RIVERBANK
CERES
Atchison St
Patterson Rd
Claus Rd
Oakdale Rd
Mc Henry Ave
Pelandale Ave
Kiernan Ave
Yosemite Blv
El Vista Ave
Scenic Dr
E Briggsmore Ave
W Briggsmore Ave
Maze Blv
Mitchell Rd
E Hatch Rd
W Hatch Rd
S Carpenter Rd
Paradise Rd
99
132
108
219

This page left intentionally blank.


GENERAL PLAN PROGRAM
Figure 4.
GENERAL PLAN
LAND USE MAP
Legend
General Plan Planning Area
City of Modesto
County Boundary
Other Municipalities
R - Residential
VR - Village Residential
MU - Mixed Use
D - Downtown
C - Commercial
RC - Regional Commercial
BCR - Business-Commercial-Residential
I - Industrial
BP - Business Park
OS - Open Space
SCP - Salida Community Plan
Miles
DE NOVO PLANNING GROUP
Map date: July 25, 2024.
Sources: City of Modesto Adopted General Plan March 2019 with subsequent Amendments; Stanislaus County GIS.
Atchison St
Patterson Rd
Claus Rd
Oakdale Rd
McHenry Ave
E Briggsmore Ave
W Briggsmore Ave
Pelandale Ave
Kiernan Ave
Maze Blv
Yosemite Blv
El Vista Ave
Scenic Dr
Mitchell Rd
E Hatch Rd
W Hatch Rd
S Garpenter Rd
Paradise Rd
D St
G St
H St
I St
St Hwy 99
99
108
219
132
RIVERBANK
CERES
STANISLAUS COUNTY
SAN JOAQUIN COUNTY
Tuolumne River
Stanislaus River
Dry Creek

This page left intentionally blank.


CITY OF MODESTO CALIFORNIA
GENERAL PLAN PROGRAM
Figure 4.
RESIDENTIAL BUILD-OUT ANALYSIS MAP
Analysis within the City
City of Modesto
RHNA Inventory Site
Vacant Specific Plan Areas
Vacant Residentially-Zoned Parcels
R-1
R-2
R-3
Analysis within the Planning Area
General Plan Planning Area
Vacant and Underutilized Parcels with Residential General Plan Land Uses
Residential
Village Residential
0
½
1
Miles
DE NOVO PLANNING GROUP
A Land Use Planning, Design, And Environmental Firm
Map date: October 3, 2024.
Sources: City of Modesto General Plan and Zoning; Stanislaus County Assessor; Michael Baker & Associates.
Claus Rd
Yosemite Blv
Mitchell Rd
E Hatch Rd
Oakdale Rd
El Vista Ave
Dry Creek
Scenic Dr
W Briggsmore Ave
E Briggsmore Ave
McHenry Ave
D St
H St
L St
G St
S 9th St
Paradise Rd
W Hatch Rd
S Carpenter Rd
Pelandale Ave
Kiernan Ave
Maze Blv
Tuolumne River
132
99
108
219
99

This page left intentionally blank.

This section describes how development associated with the *City of Modesto Urban Area General Plan* (UAGP) would affect aesthetic and visual resources.

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. This environmental setting is the baseline for determining whether an impact of the UAGP is significant.

There were no comments received during the NOP comment period related to this environmental topic.

CONCEPTS AND TERMINOLOGY

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

Visual Character. Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features. The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality. Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration, employing the concepts of vividness, intactness, and unity, which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Exposure and Sensitivity. The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related, in part, to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25 to 0.5 mile from the viewer, the middle ground zone is from the foreground zone to 3 to 5 miles from the viewer, and the background zone is from the middle ground to infinity.

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking, or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work. Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based on a regional frame of reference. The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

Scenic Highway Corridor. The area outside of a highway right-of-way that is generally visible to persons traveling on the highway.

Scenic Highway/Scenic Route. A highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources and access or direct views to areas or scenes of exceptional beauty (including those of historic or cultural interest). The aesthetic values of scenic routes often are protected and enhanced by regulations governing the development of property or the placement of outdoor advertising. Until the mid-1980's, general plans in California were required to include a Scenic Highways Element.

View Corridor. A view corridor is a highway, road, trail, or other linear feature that offers travelers a vista of scenic areas within a city or county.

3.1.1 ENVIRONMENTAL SETTING

VISUAL CHARACTERISTICS

The region surrounding Modesto is visually characterized by the many agriculturally and industrially based elements that are seen along the State Route (SR) 99 and Southern Pacific Railroad (SPRR) routes that run northwest to southeast. The landform in the planning area is naturally quite flat, but parts of it have been leveled for agricultural production also. Areas of topographic relief can be found on the valley floor near major waterways in the form of bluffs, terraced floodplains, and remnant channel beds. The floodplains of the Tuolumne and Stanislaus Rivers have such features and are natural greenbelts within the Modesto urban area.

Regionally, the planning area is bounded by the Sierra Nevada to the east and the Coast Ranges to the west. The flatness and openness of the terrain in the planning area allows for expansive views of these mountain ranges in the distance when atmospheric haze is at a minimum.

VISUAL RESOURCES

The Tuolumne River runs along the southern edge of Modesto; the Stanislaus River runs roughly parallel to the northern boundary of the Modesto urban area. Dry Creek, a tributary to the Tuolumne River, runs into the Tuolumne River from the northeast, in the southeast of Modesto. There are no designated scenic roadways within the planning area boundary.

Agricultural land and associated infrastructure give the city a scenic character that is rural in nature. Orchards, row crops, vineyards, cleared fields, hay bales, farm structures, farming and ranching equipment (such as tractors), and farmhouses are some of the features that lend to the rural agricultural nature of the area. Islands of urban development bordering the agricultural areas provide contrast to this rural character. Often, agricultural and urban areas have abrupt boundaries, lacking transition from one to the other and each beginning where the other ends.

Like many Central Valley cities along SR99 and the UPRR route that have a long history of agricultural and industrial activities, Modesto has a classic gridded street network in its relatively urban city center / Downtown planning area, surrounded by old, established neighborhoods and mature trees and landscaping. Agriculture- and industry-based buildings such as silos, warehouses, and factory

buildings remain visually prominent and contribute to the overall visual quality of the region. Recent development, including big-box and chain commercial shopping areas that are common to new development throughout the state, is also common on the outskirts of Modesto.

Scenic Highways

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

Only one highway section in Stanislaus County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 5 running through the western portion of the County. The City of Modesto and the Planning Area are not visible from this roadway segment.

Scenic Corridors

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

The City of Modesto has not designated any scenic corridors or viewsheds, however, the City does maintain a multi-use trail (Virginia Corridor Trailway) that provides scenic viewing opportunities throughout the City.

3.1.2 REGULATORY SETTING

FEDERAL REGULATIONS

No federal regulations related to visual resources are relevant to the UAGP.

STATE REGULATIONS

Nighttime Sky – Title 24 Outdoor Lighting Standards, 2022

The California Energy Commission (CEC) regulated energy efficiency of outdoor lighting for new development. The standards serve to improve outdoor lighting quality by reducing impacts of light pollution, light trespass, and glare. The standards regulate characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Exterior lighting allowances vary by Lighting Zones (LZ). The lowest illumination levels are encouraged in LZ0 (very low) and increasingly more power is allowed in LZ1 (low), LZ2 (moderate), LZ3 (moderately high), and LZ4 (high). The Statewide default location for each LZ is as follows:

- LZ0: undeveloped areas of government designated parks, recreation areas, and wildlife preserves.
- LZ1: rural areas, as defined by the 2010 U.S. Census.
- LZ2: Urban clusters, as defined by the 2010 U.S. Census.
- LZ3: Urban areas, as defined by the 2010 U.S. Census.
- LZ4: No statewide default location. Special district crated by local government.

California Department of Transportation Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. As previously described, there are no scenic highways in the Planning Area or with views of the Planning Area.

There are no state-designated scenic highways in Modesto or in the Modesto planning area as per the California Department of Transportation.

California State Lands Commission Inventory Regarding Lands Possessing Significant Environmental Values

The Tuolumne River is state sovereign land under the jurisdiction of the State Lands Commission. Any activities within the ordinary low water mark are subject to the commission's leasing jurisdiction. The State Lands Commission's significant lands inventory (or inventory of unconveyed state school lands and tide and submerged lands possessing significant environmental values) identifies the Tuolumne River as category B, Limited Use, having significant environmental values. Category B is defined as lands "in which one or more closely related dominant, significant environmental values is present. Limited uses that are compatible with, and nonconsumptive of, such values may be permitted." To provide permanent protection of environmentally significant values, a project must be designed to be consistent with the use classifications assigned under the

significant lands inventory. If such consistency could not be accomplished through mitigation or alteration of the project, the project would be denied.

LOCAL

City of Modesto Urban Area General Plan

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as VR-*X,* where *X* is the discrete number).

VR-1: Provide at least one neighborhood park within each residential neighborhood. The neighborhood park should be centrally located within the neighborhood and have a service radius of one-half to three-quarters of a mile. The neighborhood park should have one collector street frontage, and the remaining sides should front on residential streets. The minimum size for a neighborhood park shall be seven acres or the total acreage based on one acre of park land per one thousand population within the neighborhood, whichever is greater. (UAGP Policy VI.H.12)

VR-2: Apply neighborhood Compatibility Guidelines, Design Guidelines for Commercial & Industrial Development, and other applicable development guidelines, as appropriate to new construction, additions to existing structures, replacement of existing buildings / land uses, and other (non-residential) development. (UAGP Policies III.G.4; III.H.3)

VR-3: Visual corridors of the river will be protected and enhanced. (UAGP Policy VII-B.7[a])

VR-4: Visual corridors and access points on the riverfront will be recreated through redevelopment. (UAGP Policy VII-B.7[b])

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following information is provided in accordance with State CEQA Guidelines Section 15126.2.

According to Appendix G of the State CEQA Guidelines, the UAGP would be considered to result in a significant impact if it would:

a) have a substantial adverse effect on a scenic vista;
b) substantially damage scenic resources, including trees, rock outcrops, and historic buildings along a state scenic highway;
c) substantially degrade the existing visual character or quality of the site and its surroundings; or,
d) create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

The City has adopted the CEQA thresholds shown above, as well as the following additional thresholds of significance, to analyze the impacts of the UAGP on viewsheds from and of river parks in the planning area – including Dry Creek Park and the Tuolumne River Regional Park (TRRP):

a) substantially degrade views from riverside areas and parks; and,
b) substantially degrade views of riverside areas from public roadways and nearby properties.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: The Project would not result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character. (Less than Significant)

There are no designated scenic vistas in the UAGP planning area. Therefore, there would be no related impact(s).

The Baseline Developed Area and Downtown Area contain lands that are mostly developed with urban uses and are either not expected to change substantially or would allow increased density. As a result of the UAGP, there would be little change to the existing visual character and quality of this area, which is already within a developed setting, and its surroundings. Furthermore, the City of Modesto uses Design Guidelines to ensure that new development is attractive and functional. Therefore, any perceived minor impacts related to visual resources that could occur because of the UAGP would be less than significant. Similarly, any views to / from park areas would not be affected because of development consistent with the UAGP (which includes application of policies VR-2, 3, & 4, above), and any perceived impacts would be less than significant.

There are no designated scenic vistas in the planning area. The UAGP includes policies that encourage the preservation of views from riverside parks, as well as of riverside areas from public roadways (VR-3 and VR-4, above). Therefore, implementation of the UAGP would not result in any impact related to scenic vistas.

The UAGP includes the Growth Strategy Diagram for the Planned Urbanizing Area. This allows urban development on land that is flat and vacant, or that is used agriculturally. Such new development would change the visual character of the land; however, the visual quality of the planning area is generally low to moderate (as described above), and any resulting impact(s) would be ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of Planning Area. In effect, the density change would not cause any direct physical

changes related to effects on scenic vistas and resources or substantial degradation of visual character, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies listed above (VR-1 through VR-4), as well as the City's adopted *Guidelines for Small Lot Single-Family Residential Developments* and *Design Guidelines for Commercial & Industrial Development*, would eliminate direct impacts to visual resources by incorporating policies that encourage the preservation and enhancement of visual resources in the planning area.

Impact 3.1-2: The Project would not substantially damage scenic resources within a State Scenic Highway (Less than Significant)

As discussed previously, no adopted State scenic highway is in the City of Modesto. Only one section of Interstate-5 in Stanislaus County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System. However, this officially designated scenic highway does not provide views of Modesto or the immediate surrounding areas, and there are no sections of highway in the Modesto vicinity eligible for Scenic Highway designation.

Given that no adopted State scenic highways are located within the Planning Area or provide views of the Planning Area, State scenic highway impacts associated with implementation of the General Plan would be ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Planning Area. In effect, the density change would not cause any direct physical changes related to a State Scenic Highway, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies listed above (VR-1 through VR-4), as well as the City's adopted *Guidelines for Small Lot Single-Family Residential Developments* and *Design Guidelines for Commercial & Industrial Development*, would eliminate direct impacts to visual resources by incorporating policies that encourage the preservation and enhancement of visual resources in the planning area.

Impact 3.1-3: The Project would not result in light and glare impacts (Less than Significant)

Because the Baseline Developed Area and Downtown Area are already developed with urban uses, including existing sources of light and glare, potential impacts related to new sources of light and glare are limited. However, as the UAGP supports infill development, the Project could lead to the introduction of additional light and glare.

Additionally, UAGP actions and policies that could lead to an expanded street system and enhanced transit system could also increase light and glare. The City has adopted *Guidelines for Small-Lot Single-Family Residential Developments* and *Design Guidelines for Commercial & Industrial Development* that include standards for the design of outdoor lighting fixtures. These standards limit the size of fixtures and require that fixtures focus their light to avoid spilling onto nearby properties. This would reduce the potential for light and glare impacts from new development in the existing City to a ***less than significant*** level.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Planning Area. In effect, the density change would not cause any direct physical changes related to light and glare, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies listed above (VR-1 through VR-4), as well as the City's adopted *Guidelines for Small Lot Single-Family Residential Developments* and *Design Guidelines for Commercial & Industrial Development*, would eliminate direct impacts to visual resources by incorporating policies that encourage the preservation and enhancement of visual resources in the planning area.

This Page Intentionally Left Blank.

Effects on Agricultural Lands

This section describes how development associated with the *City of Modesto Urban Area General Plan* (UAGP) would affect agricultural lands, including by converting unique and prime farmland.

There were no comments received during the NOP comment period related to this environmental topic.

3.2.1 ENVIRONMENTAL SETTING

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. This environmental setting is the baseline for determining whether an impact of the UAGP is significant.

Study Area for Direct Impacts

The study area for direct impacts on agricultural lands is the UAGP planning area.

Study Area for Cumulative Impacts

This analysis will be based on the plan or projection approach to examining cumulative impacts, as provided under State CEQA Guidelines Section 15130(b)(1)(B). Pertinent plans and projections to be used for this purpose are the general plans of Stanislaus County (County) and the City of Modesto (City), as well as the projections of the state Farmland Mapping and Monitoring Program (FMMP). The study area for cumulative impacts on agricultural lands includes all of Stanislaus County.

STANISLAUS COUNTY AGRICULTURE

Modesto (both the present community and its planning area) is generally located on prime farmland, among other soil classifications, and is surrounded by active agricultural operations. The conditions for agricultural production on lands west and north of Modesto are unique: The soil quality is excellent, water rights are secure, water quality is high, and there are relatively few drainage problems. Such conditions allow the production of orchard and vine crops, including almonds, walnuts, grapes, and peaches, which require well-drained soils and irrigation.

Stanislaus County occupies a central location in California's vast agricultural heartland, the San Joaquin Valley. The County's Agricultural Commissioner's most recent published Agricultural Report (2023) contains the following information relating to agriculture in the County.

Agricultural Value

Stanislaus County has a total land area of 1,515 square miles, with total acreage for harvesting of 575,880 acres. The gross value of agricultural production in Stanislaus County for 2023 was $3,366,082,000, which represents a 10 percent decrease from 2022 when gross production value totaled $3,726,482,000. Table 3.2-1 lists the top ten commodities in Stanislaus in 2022 and 2023.

TABLE 3.2-1: SUMMARY COMPARISON OF CROP VALUES

PRODUCT TYPE	*2023 VALUE IN DOLLARS*	*2022 VALUE IN DOLLARS*
Almonds, All	$813,444,000	$752,971,000
Milk, All	$761,529,000	$1,130,572,000
Poultry, All	$399,855,000	$383,168,000
Cattle and Calves, All	$208,749,000	$192,802,000
Fruit and Nut Nursery Stock	$146,328,000	$175,035,000
Silage, All	$121,373,000	$173,025,000
Tomatoes, All	$107,111,000	$53,478,000
Pollination, Almond	$83,636,000	$87,401,000
Walnuts	$55,509,000	$42,729,000
Eggs, All	$54,335,000	$84,198,000

SOURCE: STANISLAUS COUNTY AGRICULTURAL REPORT, 2024.

AGRICULTURAL CAPABILITY

The California Department of Conservation Farmland Mapping and Monitoring Program identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmlands Inventory (IFI). IFI classifies land based upon the productive capabilities of the land, rather than the mere presence of ideal soil conditions.

The suitability of soils for agricultural use is just one factor for determining the productive capabilities of land. Suitability is determined based on many characteristics, including fertility, slope, texture, drainage, depth, and salt content. A variety of classification systems have been devised by the State to categorize soil capabilities. The two most widely used systems are the Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating. The IFI is in part based upon both of these two classification systems.

Soil Capability Classification System

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils that are unsuitable for agriculture. Generally, as the rating of the capability classification increases, yields and profits are more difficult to obtain. A general description of soil classifications, as defined by the Natural Resources Conservation Service (NRCS) is provided in Table 3.2-2 below. Planning Area soils are provided in Figure 3.2-2.

TABLE 3.2-2: SOIL CAPABILITY CLASSIFICATION

CLASS	*DEFINITION*
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict choice plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limits their use largely to pasture 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 plans and restrict their use to recreation, wildlife habitat, water supply, or aesthetic purposes.

SOURCE: USDA SOIL CONSERVATION SERVICE.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating) which have few or no limitations for agricultural production, to Grade 6 soils (less than 10) which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 3.2-3.

TABLE 3.2-3: STORIE INDEX RATING SYSTEM

GRADE	*INDEX RATING*	*DEFINITION*
1	80 – 100	Few limitations that restrict their use for crops
2	60 – 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3	40 – 60	Suited to a few crops or to special crops and require special management
4	20 – 40	If used for crops, severely limited and require special management
5	10 – 20	Not suited for cultivated crops, but can be used for pasture and range
6	Less than 10	Soil and land types generally not suited to farming

SOURCE: USDA SOIL CONSERVATION SERVICE, SOIL SURVEY OF YOLO COUNTY, CALIFORNIA, 1972.

Important Farmlands

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include urban and built-up land, other land, and water area.

EXISTING PHYSICAL CONDITIONS IN THE STUDY AREAS

Agriculture is a leading industry in Stanislaus County; the gross value of agricultural production in Stanislaus County for 2023 was $3,366,082,000, according to the most recent published Agricultural Report (2023) for the County, as previously described. Stanislaus County consistently ranks among the top ten most agriculturally productive counties in California, based on the value of agricultural products sold.[1] Stanislaus County's flat land, excellent soil quality, favorable climate, and availability of water favor agriculture. In addition, the region possesses low-cost power and a good transportation system.

Modesto (both the present community and its planning area) is generally located on prime farmland, among other soil classifications, and is surrounded by active agricultural operations. The conditions for agricultural production on lands west and north of Modesto are unique: The soil quality is excellent, water rights are secure, water quality is high, and there are relatively few drainage problems. Such conditions allow the production of orchard and vine crops, including almonds, walnuts, grapes, and peaches, which require well-drained soils and irrigation.

Project Site Farmland Characteristics

The State of California Department of Conservation FMMP and San Joaquin County GIS data were used to illustrate the farmland characteristics for the Project site. Farmlands on the Project site are identified in Figure 3.2-1. Additionally, a Williamson Act figure is provided in Figure 3.2-3. The farmland classifications for the site and surrounding area are described below.

PRIME FARMLAND

Prime Farmland is farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Approximately 8,045 acres of Prime Farmland are in the Planning Area. The bulk of the Prime Farmland is located within the outskirts of the Planning Area.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is farmland with characteristics similar to those of Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date. Approximately 112 acres of Farmland of Statewide Importance are within the Planning Area.

[1] California Department of Agriculture. 2024. Nine California Counties Make Top-10 List for Ag Sales in the U.S. Available: https://plantingseedsblog.cdfa.ca.gov/wordpress/?p=27335

UNIQUE FARMLAND

Unique Farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

There are approximately 873 acres of Unique Farmland within the Planning Area, located primarily in the northeastern portion of the Planning Area.

FARMLAND OF LOCAL IMPORTANCE

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee. There are approximately 112 acres of Farmland of Local Importance located within the Planning Area.

URBAN AND BUILT-UP LAND

Urban and Built-up Land is land occupied by structures with a building density of at least one (1) unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes. Approximately 7,316 acres of Urban and Built-up Land are located within the Planning Area.

RURAL RESIDENTIAL LAND

Rural Residential Land has a building density of less than 1 structure per 1.5 acres, but with at least 1 structure per 10 acres. Approximately 308 acres of Rural Residential Land are in the Planning Area.

CONFINED ANIMAL AGRICULTURE

Confined Animal Agriculture facilities include dairies, feedlots, poultry facilities, and aquaculture (fish farms). There are approximately 84 acres of Confined Animal Agriculture land in the Planning Area.

GRAZING LAND

Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. There are approximately 571 acres of Grazing Land within the Planning Area.

NON-AGRICULTURAL LAND OR NATURAL VEGETATION

Non-agricultural Land or Natural Vegetation is land that is heavily wooded, rocky/barren areas, riparian and wetland areas, grassland areas which do not qualify as Grazing Land due to their size or

land management restrictions, small water bodies and recreational water ski lakes. Constructed wetlands are also included in this category. There are approximately 380 acres of Grazing Land within the Planning Area.

SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND

Semi-Agricultural and Rural Commercial Land includes farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds. There are approximately 175 acres of this land use type within the Planning Area.

VACANT OR DISTURBED LAND

Vacant or Disturbed Land includes open field areas that do not qualify as an agricultural category, mineral and oil extraction areas, off road vehicle areas, electrical substations, channelized canals, and rural freeway interchanges. There are approximately 478 acres of this land use type within the Planning Area.

OTHER LAND

Other Land is not included in any other mapping category. Common examples include brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty (40) acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. Other Land is not located in the Planning Area or within the general vicinity of the Planning Area.

Soils and Farmland Characteristics

The Natural Resources Conservation Service (NRCS, previously called the Soil Conservation Service) describes these soils as follows (Note that the soil associations of Hanford, Dinuba / Hanford, and Modesto / Chualar are associated with prime agricultural lands.)

Chualar Series: These soils are moderately well-drained and moderately coarse-textured. They are smooth and very gently sloping to nearly level. Many areas of these soils are located in the vicinity of Modesto, especially to the north and northwest. They are important for growing a wide variety of orchard, vineyard, field, and forage crops; yields are good to excellent.

Dinuba Series: These soils are imperfectly drained and moderately coarse-textured. They are very gently sloping to nearly level. These soils are located north and northwest of Modesto. They are largely cultivated, primarily for irrigated pasture and grain and vine crops.

Hanford Series: These soils are well-drained and moderately coarse-textured. They have smooth, very gentle slopes. These soils are found along the Stanislaus and Tuolumne Rivers and on broad alluvial fans in the Modesto vicinity. They are important for a wide variety of irrigated orchards and field and truck crops.

Modesto Series: These soils are moderately well-drained, medium, and moderately fine-textured. They occur on nearly level areas where runoff is very slow. These soils are found north and northwest of Modesto. They are used for a wide variety of field crops and for orchards and vineyards.

Operational Characteristics of Existing Agricultural Practices

This section describes some of the general operations undertaken in commercial agricultural production as they relate to the natural environment.

USE OF CHEMICALS

Several types of chemicals are used often on agricultural lands to increase yields. The use and type of chemicals depend on such factors as the time of year, the weather, and pest populations. All chemicals used in California have undergone the California Department of Food and Agriculture pesticide registration process, which requires information on toxicology, water solubility, skin contact, and other related information. All pesticides must be applied according to manufacturers' label instructions to ensure safe use. Most chemicals are applied by spraying by hand, tractor, or airplane. Aerial spraying of chemicals in agricultural areas located adjacent to residential development can be considered a health hazard because the chemicals might drift onto nontarget areas. The Stanislaus County Agricultural Commissioner enforces state regulations relating to agricultural pesticide application, issuing permits with conditions limiting the effects from pesticide application on human health.

WATER USE

To supplement an average annual rainfall of only 11 to 15 inches[2], local agriculture relies on irrigation to sustain its broad diversity of crops. The Modesto Irrigation District receives water from local reservoirs, the Tuolumne River, and groundwater. Groundwater is the major source of domestic and industrial water. In recent years, the area has experienced a dropping water table because of a depletion of groundwater supplies.[3] Therefore, competition for water supplies has increased among urban and agricultural users. The 2014 Sustainable Groundwater Management Act (SGMA) required the formation of groundwater sustainability agencies (GSAs) in the State's high- and medium-priority groundwater basins and subbasins (basins) by the statutory deadline of June 30, 2017. Over 260 GSAs in over 140 basins were formed by that initial planning milestone. To that end, The Stanislaus Groundwater Sustainability Agency (SGSA) is a Groundwater Sustainability

[2] U.S. Climate Data. 2024. Climate Modesto – California. Available: https://www.usclimatedata.com/climate/modesto/california/united-states/usca0714

[3] Stanislaus and Tuolumne Rivers Groundwater Basin Association. 2024. Modesto Subbasin Groundwater Sustainability Plan. Available: https://www.strgba.org/Content/Documents/ToddGroundwaterModestoRevisedGSP/Modesto%20Subbasin%20Revised%20GSP%2020240710.pdf

Agency (GSA) formed in 2017 by seven member agencies in the Modesto groundwater subbasin, including:

- City of Modesto
- Modesto Irrigation District
- City of Oakdale
- Oakdale Irrigation District
- City of Riverbank
- City of Waterford
- Stanislaus County

Air Quality

San Joaquin Valley air quality is declining as the valley's population and industry increase. The California Air Resources Board estimates that annual ozone-related crop losses in the valley could exceed $5.73 billion. Historical ~~S~~studies have shown that grape, cotton, orange, alfalfa, and tomato yields can be up to 20% below potential yields because of ozone damage to these crops.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with State and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, farmland includes Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The Natural Resource Conservation Service (NRCS) administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on

the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

The Project site and adjacent parcels will not be completed by a federal agency, or with assistance from a federal agency. Therefore, the Project will not be subject to the FPPA.

STATE

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents.

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value.

The Project site is not under a Williamson Act contract, nor are any of the parcels that are located adjacent to the Project site under a current contract.

Farmland Security Zones

In 1998 the State legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts.

The Project site and the adjacent parcels are not within the FSZ program.

California Government Code Section 56064

This section of the Government Codes defines “Prime agricultural land” as follows:

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

    - Land that qualifies, if irrigated, for rating as Class I or Class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
    - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.
    - Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

LOCAL

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as VR-*X,* where *X* is the discrete number).

Stanislaus Local Agency Formation Commission Policies

The Stanislaus Local Agency Formation Commission (LAFCo) is responsible for coordinating orderly amendments to local jurisdictional boundaries, including annexations. The Cortese-Knox-Hertzberg Local Government Reorganization Act (Government Code Section 56000 et seq.) empowers each Local Area Formation Commission (LAFCo) to consider the incorporation of new cities, the annexation of lands to existing cities and special districts, and other changes to city and district boundaries. Through its responsibilities to govern the approval of annexations and the establishment of spheres of influence, the LAFCo considers soil quality and the availability of irrigation water when assessing the impacts of annexation on agricultural land.

AL-1: LAFCo policies direct that the development or use of land for uses other than open space will be guided away from existing prime agricultural lands, unless such action would not promote the planned, orderly, efficient development of an area (Government Code 56377).

AL-2: "LAFCo policy requires that proposals for annexation and/or sphere of influence expansion be subject to a Plan for Agricultural Preservation. The Plan for Agricultural

Preservation must specify the method or strategy proposed to minimize the loss of agricultural lands. The policy then provides a menu of commonly-used strategies that are encouraged. Purchase of conservation easement, payment of in-lieu fees or municipal adoption of an urban growth boundary are examples of these commonly- used strategies, and other methods may also prove viable on a case-by-case basis."

Stanislaus County Policies

The Stanislaus County General Plan (County General Plan) has the following applicable policies.

LAND USE ELEMENT

AL-3: Agriculture, as the primary industry of the County, shall be promoted and protected. (County General Plan, Land Use Element, Goal 3, Policy 17)

AL-4: Whenever an application is to be considered which includes property within the sphere of influence of a city or special district (e.g., sewer, water, community services) or areas of specific designation created by agreement between County and City, the following procedures should be followed:

1. Development, other than agricultural uses and churches, which requires discretionary approval shall be referred to that city for preliminary approval. The project shall not be approved by the County unless written communication is received from the city memorializing their approval. If approved by the city, the city should specify what conditions are necessary to ensure that development will comply with city development standards. Requested conditions for such things as sewer service in an area where none is available shall not be imposed. Approval from a city does not preclude the County decision-making body from exercising discretion, and it may either approve or deny the project.
2. Agricultural uses and churches which require discretionary approval should be referred to that city for comment. The County Planning Commission and Board of Supervisors shall consider the responses of the cities in the permit process. If the County finds that a project is inconsistent with the city's general plan designation, it shall not be approved. Agricultural use and churches shall not be considered inconsistent if the only inconsistency is with a statement that a development within the urban transition area or sphere of influence shall be discouraged (or similar sweeping statement). The city shall be asked to respond to the following questions:
    A. Is the proposed project inconsistent with the land use designation on the city's general plan? If so, please include a copy of the map (or that portion which includes the subject property) and the text describing uses permitted for the general plan designation. All findings of inconsistency must include supporting documentation.

B. If the project is approved, specifically what type of conditions would be necessary to ensure the development will comply with city development standards such as street improvements, setbacks and landscaping? (County General Plan, Land Use Element, Spheres of Influence Policy)

AGRICULTURAL ELEMENT

AL-5: The County shall continue to implement its Right-to-Farm Ordinance. (County General Plan, Agricultural Element, Policy 1.9, Implementation Measure 1)

AL-6: The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations. (County General Plan, Agricultural Element, Policy 1.10)

AL-7: The County shall require buffers and setbacks for all discretionary projects introducing or expanding non-agricultural uses in or adjacent to an agricultural area consistent with the guidelines presented in Appendix "A" of the Agricultural Element. (County General Plan, Agricultural Element, Policy 1.10, Implementation Measure 1)

AL-8: To reduce development pressures on agricultural lands, higher density development and infilling shall be encouraged (County General Plan, Ag Element, Policy 2.4)

AL-9: The County recognizes the desire of cities and unincorporated communities to grow and prosper and shall not oppose reasonable requests consistent with city and county agreements to expand, providing the resultant growth minimizes impacts to adjacent agricultural land. (County General Plan, Agricultural Element, Policy 2.11)

AL-10: In recognition that unincorporated land within sphere of influence of cities or community services districts and sanitary districts serving unincorporated communities ultimately will be urbanized, the County shall cooperate with cities and unincorporated communities in managing development in sphere of influence areas. (County General Plan, Agricultural Element, Policy 2.13)

AL-11: The County shall work cooperatively with the nine cities within the County and to encourage them to adopt agricultural conservation policies or ordinances which are consistent with County policies or ordinances in order to undertake an integrated, comprehensive Countywide approach to farmland conservation. It is the ultimate goal of the County to have all nine cities participate in or adopt an agricultural mitigation ordinance that is the same as or substantially similar. (County General Plan, Agricultural Element, Policy 2.17)

City of Modesto Policies

The City's UAGP provides the following policies related to agricultural land.

BASELINE DEVELOPED AREA

AL-12: If a subsequent project is within the Baseline Developed Area or Downtown Area as identified on the Urban Area General Plan Growth Strategy Diagram [Figure II-1], consider the project to have minimal effect on the conversion of agricultural lands, and no mitigation for that impact will be required. (UAGP Policy VII-D.3[a])

AL-13: Facilitate infill development through active leadership and strategic provision of infrastructure and services, and supporting land uses. Provide incentives for infill development, redevelopment and growth in existing urbanized areas to enhance community character, optimize infrastructure investments, support increased transit use, promote non-motorized transportation, increase housing diversity and enhance commercial viability. Structure fee programs so that infill development is "priced" according to its relative infrastructure efficiencies and the community-wide benefits to be realized. (UAGP Policy III.B.1)

AL-14: To maximize economic and social benefits, and resource efficiencies, prioritize and focus new development within the existing City limits. This will strengthen existing neighborhoods and maximize efficiencies of utility and infrastructure systems. New development should be accessible via all modes of transportation, both motorized and non-motorized, with an emphasis on availability of public services. (UAGP Policy III.B.2)

AL-15: Implement higher density, mixed-use development to create a balanced, vibrant downtown and active neighborhood centers by streamlining development processing, offering public parking for projects with parking structures (in lieu of the provision of private parking), reducing fees and providing for deferral of fees. (UAGP Policy III.F.1)

PLANNED URBANIZING AREA

AL-16: Do not annex agricultural land unless urban development consistent with the General Plan has been approved by the City. (UAGP Policy VII-D.4[a])

AL-17: Support the continuation of agricultural uses on lands designated for urban uses until urban development is imminent. (UAGP Policy VII-D.4[b])

AL-18: Encourage the County to retain agricultural uses on land surrounding the General Plan area and on lands within the General Plan area pending their annexation to the city or development by mutual agreement with the County. (UAGP Policy VII-D.4[c])

AL-19: Where necessary to promote planned City growth, encourage development of those agricultural lands that are already compromised by adjacent urban development or contain property required for the extension of infrastructure or other public facilities, before considering urban development on agricultural lands that are not subject to such urban pressures. (UAGP Policy VII-D.4[d])

AL-20: For any subsequent project that is adjacent to an existing agricultural use, the project proponent may incorporate measures to reduce the potential for conflicts with the agricultural use. Potential measures to be implemented may include the following:

1) Include a buffer zone of sufficient width between the proposed residences and the agricultural use.
2) Inform residents about the possible exposure to agricultural chemicals. (UAGP Policy VII-D.4[e])

AL-21: Require development projects to comply with current LAFCo policy(ies) regarding preservation of agricultural resources. (UAGP Policy VII-D.4[f])

POLICIES THAT REDUCE IMPACTS

The following City policies are in effect and have been determined to reduce, avoid, or mitigate environmental impacts within the existing city limits and within the Planned Urbanizing Area as they annex and develop. LAFCo and County policies are included because they reduce or avoid cumulative impacts. The policy reference numbers are listed.

Stanislaus Local Agency Formation Commission Policies

Annexation of land to the City is under LAFCo jurisdiction. The Stanislaus County LAFCo has the following applicable policies, which, when applied to subsequent projects, would avoid or reduce impacts: AL-1, AL-2.

Stanislaus County Policies

The territory outside the city limits is under County jurisdiction. The County General Plan has the following applicable policies as described in Section A-4 above, which, when applied to subsequent projects, would avoid or reduce impacts: AL-3 through AL-11.

City of Modesto Policies

The City's UAGP provides the following policies as described in Section A-4 above, related to agricultural land, which, when incorporated into subsequent projects, would avoid or reduce impacts: AL-12 through AL-21.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on agricultural and forest resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland zoned Timberland Production (as defined in Public Resources Code section 51104 (g));
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

There are no forest lands or timber lands located within the UAGP planning area. There are also no parcels that are currently zoned as forest land, timber, or timber production. Therefore, implementation of the proposed Project would have no impact on forest land, timber, or timber production and this impact will not be discussed further.

CONSIDERATION AND DISCUSSION OF SIGNIFICANT IMPACTS

The following information is provided in accordance with State CEQA Guidelines Section 15126.2.

THRESHOLDS OF SIGNIFICANCE

The proposed General Plan amendment project would have a significant impact on agricultural land if it would:

a. convert areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses, impair the agricultural productivity of prime agricultural land, or result in substantial pesticide overspray, dust, or noise at urban 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 or timberland;
d. result in the loss of forest land or conversion of forest land to non-forest use; or,
e. involve other changes to the environment that could result in conversion of farmland or forest land.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses (Significant and Unavoidable)

BASELINE DEVELOPED AREA AND DOWNTOWN AREA

The Baseline Developed Area and Downtown Area are already developed. The impacts of new development in these areas on agricultural lands would be less than significant, per AL- 12, above,

because no prime farmland, unique farmland or farmland of statewide importance would be converted as a result of said new development.

PLANNED URBANIZING AREA

Through 2040, development under the UAGP could convert approximately 9,000 acres of Prime Farmland, approximately 1,100 acres of Unique Farmland, approximately 100 acres of Farmland of Statewide Importance and approximately 400 acres of Farmland of Local Importance to urban uses within the Planned Urbanizing Area.

The UAGP would place urban uses in proximity to existing agricultural activities. These urban uses would be subject to noise, dust, and potential chemical overspray from agricultural uses, which could result in complaints, especially from residential areas. The UAGP results in an approximately 26-mile-long boundary between these uses. Therefore, approximately 1,100 acres of urban uses (within a 350-foot zone from the boundary) could be affected adversely. If agricultural activities are not conducted within a 350-foot zone of those uses, the efficiency of up to 1,100 acres of agricultural lands would be reduced.

LAFCo (AL-1, AL-2) and City (AL-13 through AL-21) policies would result in the orderly conversion of agricultural land as available developable land within the City is improved. To reduce the conversion of agricultural land for non-agricultural uses, the City allows development of detached single-family residences on lots smaller than the R-1 minimum standard of 5,000 square feet for interior lots and 5,500 square feet for corner lots in the Planned Urbanizing Area. Single-family residences have been built on lots of approximately 2,100 square feet, resulting in houses consuming less than half the typical land area, resulting in further reduction of agricultural land conversion to urban uses. General Plan amendment policies AL-13 through AL-21 listed above would further reduce (but not eliminate) the impact. These policies would reduce the severity of the impact through requiring thoughtful and deliberate planning processes prior to conversion of agricultural land, and by promoting continued agricultural activities on developable land. General Plan policies would also promote higher-density infill development within the existing City, further reducing development pressure on greenfield areas. However, because areas of Farmland as described under Thresholds of Significance, above, would be converted to non- agricultural uses, the resulting impact(s) was previously found to be ***significant and unavoidable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a significant and unavoidable impact. In effect, the density change would not cause any direct physical changes related to agricultural land, therefore, it would not change the previous impact determination of ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies AL-12 through AL-21 serve to minimize direct impacts to agricultural resources by promoting continued agricultural activities on developable parcels, thoughtful and deliberate annexation and development processes & requirements, promoting new development at increased densities to occur within the existing City, and by supporting LAFCo's policy to require that annexation projects preserve agricultural land that is of equal or better quality elsewhere in the County.

Impact 3.2-2: The proposed Project would conflict with existing zoning for agricultural use, or Williamson Act Contracts (Significant and Unavoidable)

There are a small single-digit number of Williamson Act contracts (contracts) within the Dry Creek CPD, toward the east side of the UAGP planning area. However, the applicable Open Space land use designation results in any potential impact(s) related to these contracts being less than significant. Nevertheless, separately, there are approximately 60 Williamson Act contracts in the Planned Urbanizing Area. The properties that are subject to these contracts are designated for future conversion to non- agricultural uses, which results in a conflict with the contracts. Based on the applicable threshold of significance, the resulting impact(s) would be ***significant and unavoidable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a significant and unavoidable impact. In effect, the density change would not cause any direct physical changes related to agricultural land, therefore, it would not change the previous impact determination of ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies AL-12 through AL-21 serve to minimize direct impacts to agricultural resources by promoting continued agricultural activities on developable parcels, thoughtful and deliberate annexation and development processes & requirements, promoting new development at increased densities to occur within the existing City, and by supporting LAFCo's policy to require that annexation projects preserve agricultural land that is of equal or better quality elsewhere in the County.

Impact 3.2-3: Project implementation would not involve other changes in the existing environment which, due to their location or nature, could

result in conversion of Farmland to non-agricultural use (Less than Significant)

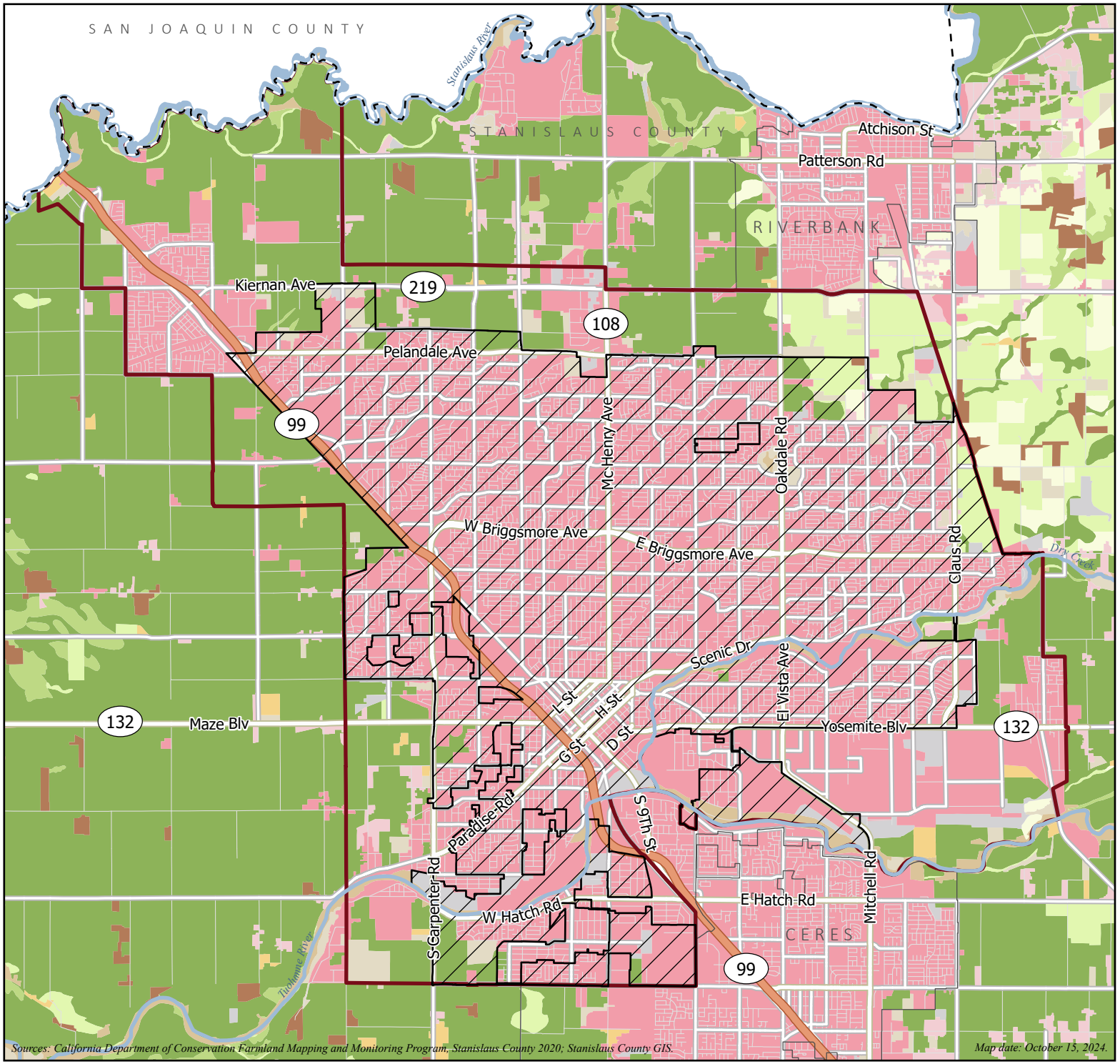
As discussed in Impact 3.2-1, future development in accordance with the proposed General Plan would result in the conversion of farmland to a non-agricultural use. The proposed General Plan would allow new urban uses that have the potential to conflict with existing agricultural operations, regardless of whether the operations are conducted on Williamson Act lands and lands zoned for agricultural use as discussed under impact 3.2-2 above. Future development in areas within the Planning Area may involve other changes in the existing environment that could result in the conversion of farmland. However, as mentioned previously, the proposed General Plan includes goals and policies which would reduce the impact of development resulting in the conversion of existing farmland. Therefore, the proposed General Plan would result in a ***less than significant*** impact involving other changes in the existing environment that could result in the conversion of farmland.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. However, these density changes would not involve other changes in the existing environment that could result in conversion of farmland to non-agricultural use, beyond what has been previously disclosed and discussed under the previous impacts. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies AL-12 through AL-21 serve to minimize direct impacts to agricultural resources by promoting continued agricultural activities on developable parcels, thoughtful and deliberate annexation and development processes & requirements, promoting new development at increased densities to occur within the existing City, and by supporting LAFCo's policy to require that annexation projects preserve agricultural land that is of equal or better quality elsewhere in the County.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.2-1.

IMPORTANT FARMLANDS

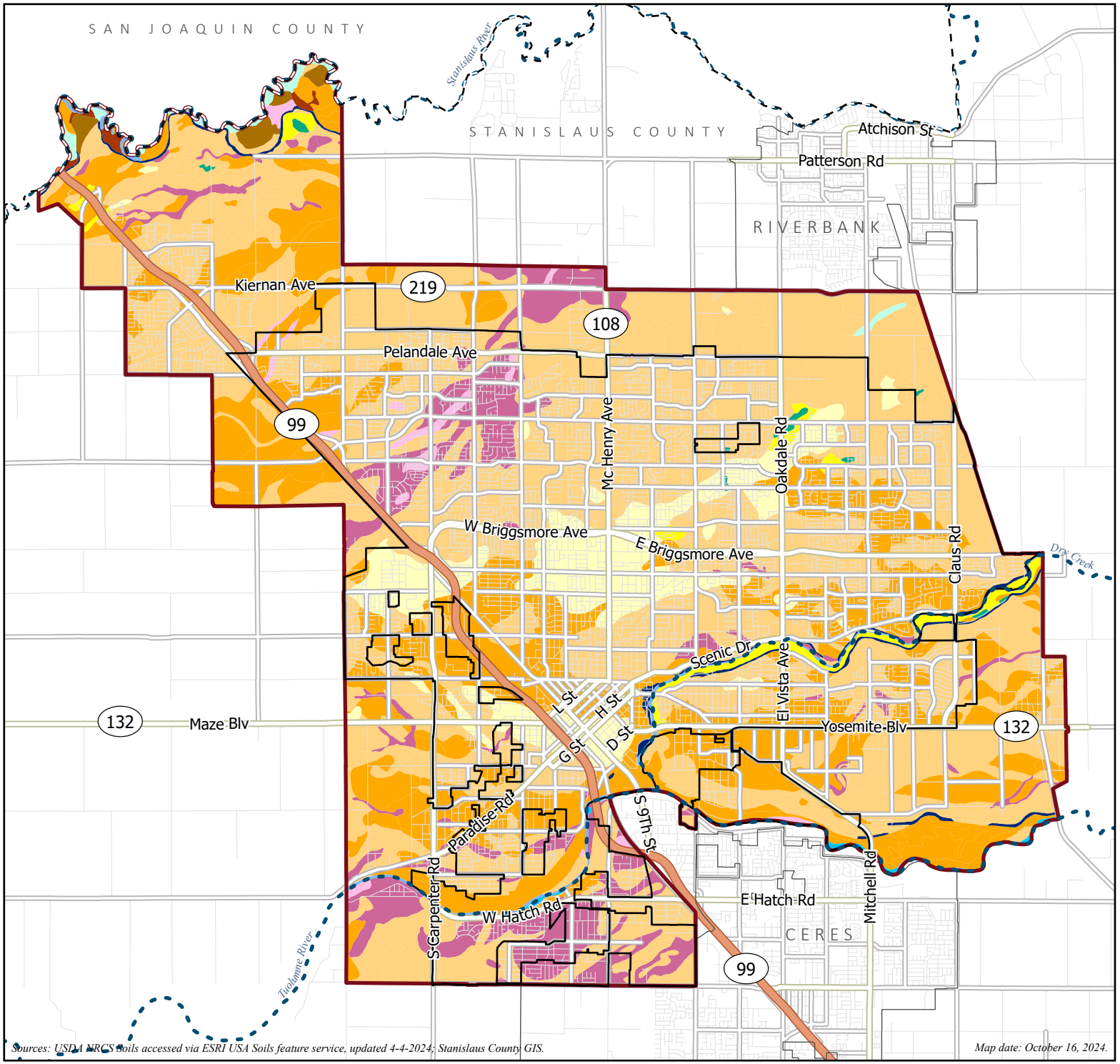
Legend

- City of Modesto
- General Plan Planning Area
- County Boundary
- Other Municipalities
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Farmland of Local Importance
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation
- Vacant or Disturbed Land
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land

0 1 2
Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.2-2.

SOIL MAP

Legend

- City of Modesto
- General Plan Planning Area
- County Boundary
- Other Municipalities

Sands
- Sand
- Loamy Sand

Loams
- Loam
- Clay Loam
- Sandy Loam
- Fine/Very Fine Sandy Loam
- Gravelly Sandy Loam
- Silt Loam
- Silty Clay Loam

Other
- Clay
- Soils
- Terrace escarpments
- Riverwash
- Water

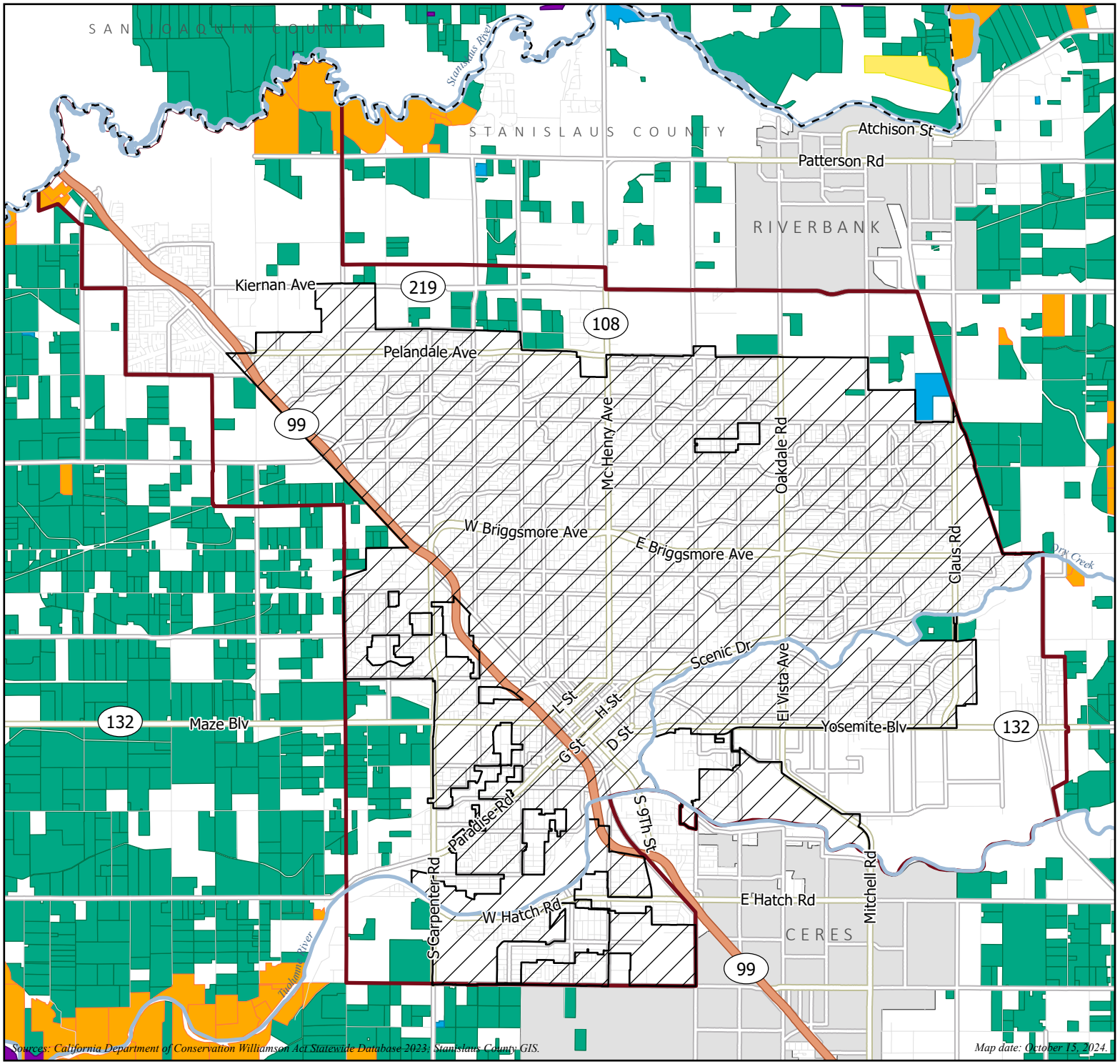
0 1 2 Miles

Sources: USDA NRCS soils accessed via ESRI USA Soils feature service, updated 4-4-2024; Stanislaus County GIS.

Map date: October 16, 2024.

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.2-3.

WILLIAMSON ACT LANDS

Legend

- City of Modesto
- General Plan Planning Area
- County Boundary
- Other Municipalities

Enrollment Type

- Prime
- Nonprime
- Farmland Security Zone
- Mixed
- Nonrenewal

0 1 2
Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.

This section describes the regional air quality, current attainment status of the applicable air basin, local sensitive receptors, emission sources, and impacts that are likely to result from proposed project implementation. The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines.

One comment was received during the NOP comment period regarding this environmental topic, from the San Joaquin Air Pollution Control District (SJVAPCD) on October 25, 2024.

3.3.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Modesto (City) is in the northern portion of the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley.[1]

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2025. Available: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet.[2]

The climate of the project area is characterized by hot dry summers and cool, mild winters. Clear days are common from spring through fall. Daytime temperatures in the summer often approach or exceed 100 degrees Fahrenheit, with lows in the 60s. In the winter, daytime temperatures are usually in the 50s, with lows around 35 degrees Fahrenheit. Radiation fog is common in the winter, and may persist for days. Partly to mostly cloudy days are common in winter, as most precipitation received in the Valley falls from November through April.

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[3] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by

[2] Ibid.

[3] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed December 6, 2024.

nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone currently and due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction.[4]

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley's $PM_{2.5}$ and PM_{10} problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10} (SJVAPCD, 2015).

[4] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2025. Available: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor.[5]

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both ROGs and NO_x are emitted by transportation and industrial sources. ROGs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive

[5] Ibid.

organic compounds (ROG) are defined as the subset of ROGs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. EPA, 2024). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S.[6]

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental

[6] National Aeronautics and Space Administration (NASA). Jet Propulsion Laboratory. 2015. NASA: Background Ozone is a Major Issue in U.S. West. Available: https://www.jpl.nasa.gov/news/nasa-background-ozone-a-major-issue-in-us-west/

effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO.[7]

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina.[8] Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with ROGs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

[7] California Air Resources Board. 2024. Carbon Monoxide and Health. Available: https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health#:~:text=Carbon%20monoxide%20is%20harmful%20because,oxygen%20delivery%20to%20the%20brain.

[8] United States Environmental Protection Agency (USEPA). 2024. Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution. Available: https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#Effects

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp, and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects.[9] Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and ROGs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

[9] United States Environmental Protection Agency (USEPA). 2024. Sulfur Dioxide Concentrations – EPA. Available: https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=91

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer, and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles, which are less than 2.5 microns in size. Like PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also impacts soils and damages materials and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old.[10] 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 and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain.[11]

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen

[10] Bay Area Air Quality Management District (BAAQMD). 2017. Spare the Air: Cool the Climate. April. San Francisco, CA. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

[11] United States Environmental Protection Agency (USEPA). 2024. Health and Environmental Effects of Particulate Matter (PM). Available: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm

carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014.[12] Based on this reduction of lead in the air over this period, and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

[12] United States Environmental Protection Agency (USEPA). 2019d. Basic Information About Lead Pollution. Available: https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#how

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS[13]

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	--	20 ug/m^3
	24-Hour	150 ug/m^3	50 ug/m^3
$PM_{2.5}$	Annual	12 ug/m^3	12 ug/m^3
	24-Hour	35 ug/m^3	--
Lead	30-Day Avg.	--	1.5 ug/m^3
	3-Month Avg.	0.15 ug/m^3	--

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated based on risk rather than specification of safe levels of contamination.

Existing air quality concerns within Stanislaus County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant

[13] California Air Resources Board. 2024a. California Ambient Air Quality Standards (CAAQS). Available: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm

concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Stanislaus County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10} and $PM_{2.5}$. Stanislaus County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 presents the state and nation attainment status for Stanislaus County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN STANISLAUS COUNTY[14]

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

Stanislaus County Air Quality Monitoring

The San Joaquin Valley Air Pollution District (SJVAPCD) and the CARB maintain air quality monitoring sites throughout Stanislaus County that collect data for ozone and $PM_{2.5}$. In addition, air quality monitoring sites for PM_{10} are located throughout the San Joaquin Valley (though not in Stanislaus County). It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal

[14] California Air Resources Board. 2024. Maps of State and Federal Area Designations. Available: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations

standards. Best available data obtained from the monitoring sites between 2021 and 2023 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

TABLE 3.3-3: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (STANISLAUS COUNTY) - OZONE

YEAR	DAYS > STANDARD				1-HOUR OBSERVATIONS			8-HOUR AVERAGES				YEAR COVERAGE	
	STATE		NATIONAL			STATE	NAT'L	STATE		NATIONAL			
	1-HR	8-HR	1-HR	8-HR	MAX.	D.V.[1]	D.V.[2]	MAX.	D.V.[1]	MAX.	D.V.[2]	MIN	MAX
2023	1	18	0	17	0.102	0.10	0.103	0.086	0.086	0.102	0.103	98	99
2022	2	12	0	12	0.113	0.10	0.104	0.092	0.087	0.113	0.104	94	95
2021	4	38	0	31	0.106	0.10	0.099	0.094	0.087	0.106	0.099	96	98

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1] = STATE DESIGNATION VALUE . D.V. [2]= NATIONAL DESIGN VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN VALLEY) – PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2023	2.9	126.4	48.4	44.2	270.4	266.0	0 – 0
2022	3.8	171.2	56.7	54.9	250.8	251.6	0 – 10
2021	16.3	151.7	54.9	52.8	437.5	439.3	0 – 97

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. ND=THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-5: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (STANISLAUS COUNTY) - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANNUAL D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HOUR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN	MAX
2023	3.1	10.5	10.5	13.0	15	33.2	37	43.2	43.2	96	97
2022	10.5	13.4	ND	14.3	16	36.4	55	53.9	53.9	91	98
2021	20.4	15.0	15.0	13.0	16	43.1	55	66.8	66.8	99	100

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE. ND= NO DATA.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools.

3.3.2 REGULATORY SETTING

FEDERAL REGULATIONS

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The CASAC's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.
- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99^{th} percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the U.S. EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by U.S. EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the way they are achieved. Towards this end, the CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are like the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states can set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone,

carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates, and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of

significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

Omnibus Low-NOx Rule

The CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOX Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that mandates manufacturers convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality; and
- Feasible implementation measures designed to achieve these goals.

LOCAL

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[15] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[16] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the

[15] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.
[16] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan, December 20.

federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[17,18]

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[19] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM_{10} emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.

[17] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[18] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

[19] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.
- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of NOx or two or more tons of PM_{10}.
- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.
- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two or more tons per year of NOx or PM_{10} during project operations.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fee) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources). Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

Mitigation measures may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce of 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emission reduction measures. If a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measures to be implemented before, during, and after any dust-generating activity. For sites

smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

National Emission Standards for Hazardous Air Pollutants

Rule 4002 applies in the event an existing building will be renovated, partially demolished, or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

City of Modesto Urban Area General Plan

The following goals and policies would be contained in the UAGP to assist in promoting air quality consistent with federal, state, and local standards and regulations in the General Plan area.

LAND USE ELEMENT GOALS AND POLICIES

AQ-1: Maintain and improve the integrity of the existing developed City, and promote complete, sustainable, compatible and high-quality development – for living, working, shopping and recreation – across the entire city. (Goal III.B)

AQ-2. Facilitate infill development through active leadership and strategic provision of infrastructure and services, and supporting land uses. Provide incentives for infill development, redevelopment and growth in existing urbanized areas to enhance community character, optimize infrastructure investments, support increased transit use, promote non- motorized transportation, increase housing diversity and enhance commercial viability. Structure fee programs so that infill development is "priced" according to its relative infrastructure efficiencies and the community-wide benefits to be realized. (Policy III.B.1)

AQ-3. To maximize economic and social benefits, and resource efficiencies, prioritize and focus new development within the existing City limits. This will strengthen existing neighborhoods and maximize efficiencies of utility and infrastructure systems. New development should be accessible via all modes of transportation, both motorized and non- motorized, with an emphasis on availability of public services. (Policy III.B.2)

AQ-4. Create neighborhoods that are complete, compact and sustainable so that housing, jobs, shopping and transit access are within easy walking distance of each other. Include a mix of compatible land uses within close proximity, contain a diversity of housing types to accommodate a wide range of economic levels and age groups, and have a center focus that combines commercial, civic, cultural, and recreational uses in order to facilitate high-quality living environments. Access to healthy foods and grocery stores that sell fresh fruits and vegetables is a high priority. (Goal III.C)

AQ-5. Complete neighborhoods promote livability, sustainability and safety for all residents. Neighborhoods are to contain: a mix of housing types including affordable and market-rate; a range of services and facilities such as schools, parks, retail, services & civic facilities; transit access within ½-mile of all dwelling units; and, complete streets with tree canopy cover that accommodate both motorized and non-motorized mobility. (Policy III.C.1)

AQ-6. Encourage development of local, citywide and regional mixed-use centers that address different community needs and market sectors, and that compliment and are well-integrated with surrounding neighborhoods. (Policy III.C.4)

AQ-7. All parts of new neighborhoods should be within a half-mile of a central gathering place that is located on a collector street or minor arterial and that includes public space, shopping areas, transit access, and community-supportive facilities and services. (Policy III.C.5)

AQ-8. Design new neighborhoods with traditional grid block sizes ranging from 300 to 400 feet in length. Separate sidewalks from the curb with a minimum eight-foot (8') landscaped parkway. Construct context-appropriate traffic-calming improvements, such as traffic circles and intersection bulbouts. (Policy III.C.6)

AQ-9. New neighborhoods include transit stops that support and connect to the citywide transit system, and that are within a half-mile walking distance of all dwelling units. (Policy III.C.7)

AQ-10. Neighborhoods should contain sufficient K-12 schools necessary to serve them. Locate schools on Collector streets, preferably at or near the intersection of two Collector streets. Locate neighborhood parks (see UAGP Chapter VI for parks standards) adjacent to school sites. New schools and parks should be surrounded by streets on all sides wherever possible to encourage access by walking and bicycling. (Policy III.C.8)

AQ-11. Encourage the development of senior housing in neighborhoods that are accessible to public transit, commercial services, and health & community facilities. (Policy III.C.9)

AQ-12. Corridor Studies guide infill development, and re-use / recycling of existing development, along major transportation corridors. Such development will balance vehicular circulation and access against all other travel modes – both motorized and non-motorized. Development along major transportation corridors should mix land uses effectively so that housing, retail and service needs are combined with pedestrian-friendly facilities and gathering places. (Goal III.D)

AQ-13. Development along major transportation corridors that occurs pursuant to an adopted corridor study should be compact, mixed-use, transit- / bicycle- / pedestrian-friendly, and scaled appropriately to match the context and transition to existing nearby neighborhoods. (Goal III.E)

AQ-14. Locate higher-density, transit-oriented, mixed-use development (TOD) along major transportation corridors near significant intersections and public transportation facilities. Development density along major transportation corridors should increase with proximity to transit stops and decrease with distance from transit stops in order to encourage increased transit ridership. Establish specific thresholds, standards and guidelines for TOD and other development types in the applicable corridor study documentation. (Policy III.E.1)

AQ-15. Promote mixed-use infill development along major transportation corridors through the use of corridor studies, zoning, flexible development standards, density bonuses and other development incentives. Locate such development along the back of sidewalk, and oriented to frame the street, while incorporating public plazas and pedestrian amenities that will create people-oriented centers for living, working and gathering. (Policy III.E.2)

AQ-16. Encourage high-quality, compact, multi-story residential infill development along major transportation corridors, through design criteria contained within applicable corridor study

documentation. Minimize parking requirements where appropriate. Maintain compatibility with form and function of nearby existing neighborhoods through use of applicable design guidelines. (Policy III.E.3)

AQ-17. Corridor studies may include a form-based code component to guide subsequent development, in order to provide clear and consistent development standards. Other potential implementation mechanisms include, and are not limited to, mixed-use and/or overlay zoning, specific plans, and design guidelines. (Policy III.E.4)

AQ-18. Promote the transformation of major transportation corridors, via formal corridor studies, into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating the following design features: (Policy III.E.5)

i. Wide sidewalks to accommodate pedestrian traffic, amenities and landscaping;

ii. On-street parking between sidewalks and travel lanes;

iii. Few curb cuts and driveways;

vi. Enhanced pedestrian street crossings;

v. Compatible interface / relationship with adjacent existing residential neighborhoods;

v. Buildings located at the back of sidewalk;

vii. Building entrances oriented to the street;

viii. Transparent ground floor frontage;

ix. Street trees and furnishings; and,

x. Pedestrian-scale lighting and signage.

AQ-19. Downtown Modesto is a high-priority area for both public and private investment. Therefore, the City should prioritize and focus infrastructure investments here. Downtown is planned to become a more urban, higher-density, mixed-use, pedestrian-oriented, economically vibrant, innovative center for living, working, socializing and recreating. (Goal III.F)

AQ-20. Implement higher density, mixed-use development to create a balanced, vibrant downtown and active neighborhood centers by streamlining development processing, offering public parking for projects within parking structures in lieu of the provision of private parking, reducing fees and providing for deferral of fees. (Policy III.F.1)

AQ-21. Housing in the Downtown Area should include a variety of unit types and densities, ranging from medium to very high, to act as a catalyst for other types of development. (Policy III.F.2)

AQ-22. Enhance downtown businesses by establishing new downtown residential and mixed-use development, which will provide customers for downtown businesses. (Policy III.F.3)

AQ-23. Higher-density, transit-oriented, mixed-use development (TOD) within the Downtown area should be strategically located near the most significant intersections and public transportation facilities such as the bus depot and passenger rail station. TOD should be designed and oriented toward these and any other major transportation facilities, as they are among the most important building blocks for Downtown Modesto's future. (Policy III.F.6)

AQ-24. Reduce the use of automobiles and the need to own a car by prioritizing infrastructure for pedestrians, bicycles, buses, and rail over automobile infrastructure, which also reduces the need for off-street parking. (Policy III.F.7)

AQ-25. Develop a context-sensitive circulation system that prioritizes and facilitates pedestrians, bicycles, and transit, and which also accommodates automobiles. (Policy III.F.8)

AQ-26. Support development of a downtown passenger rail station, and its connectivity to other transportation modes, to act as a catalyst for intensified mixed-use development within the downtown area. (Policy III.F.9)

AQ-27. Commercial development should strengthen the vehicular, pedestrian and visual connections between shopping centers and their surrounding neighborhoods, and between neighboring retail sites, through physical improvements, public transit and coordinated land use and transportation planning. (Goal III.G)

AQ-28. Support the transformation of auto-oriented shopping centers currently characterized by retail strips surrounded by large surface parking lots into pedestrian- and bicycle-friendly places. Retail activity and shopping in general should be designed for pedestrian, bicyclist and transit user safety and convenience. Wide sidewalks, crosswalks, clear and well-lit storefront windows, varied building facades, awnings, street furniture, public art, extensive landscaping and pedestrian-scaled signage are among the design components to be considered. (Policy III.G.1)

AQ-29. For new shopping center development, and for renovation of older shopping centers where feasible, locate buildings at the "front" of the site (at or near the back of sidewalk) and parking at the "back" of the site, behind the buildings. This policy is intended to be applied where contextually-appropriate, primarily in the more walkable areas of the City. (Policy III.G.2)

AQ-30. Locate employment-intensive uses, such as medical and professional offices, light industry, R&D and skill training, in appropriate areas as designated by the General Plan and the zoning map. Locate Business Parks, Industrial development and other employment centers near access points to major transportation facilities so that they are accessible by all modes of transportation. (Goal III.H)

AQ-31. Design employment center development to accommodate safe and convenient walking, biking and transit use, and provide a high-quality campus-like environment, characterized by the following: (Policy III.H.2)

- Interconnected streets and walkable blocks;
- Buildings sited around common plazas, courtyards, walkways and open spaces;
- On-site landscaping and buffers between buildings and properties;
- Visual screening of areas for outdoor storage, processing and/or other industrial operations;
- A thoughtful and well-executed signage program for business identification and way-finding;
- Landscaping and lighting to promote pedestrian activity;
- Clearly-marked driveways, pedestrian routes and building entries that minimize potential conflicts among trucks, autos, bicycles and pedestrians; and,
- Control of operations regarding lighting, noise, odors, vibrations, hazardous / toxic materials, heavy equipment / truck access and any other environmental considerations that may affect nearby properties.

TRANSPORTATION ELEMENT GOALS AND POLICIES

AQ-32. Provide transportation choices that are safe, reliable, effective, and economical for all users to decrease household transportation costs, improve air quality, reduce greenhouse gas emissions, and promote public health. The transportation system will be robustly multi- modal, recognizing that adding capacity for automobiles is often the least cost-effective improvement. (Goal V.A)

AQ-32. Identify gaps in the pedestrian and bicycle transportation systems and plan facilities to close those gaps. (Policy V.A.1)

AQ-34. Streets, pedestrian paths, and bike paths contribute to a system of fully-connected routes to all destinations. Their designs encourage pedestrian and bicycle use when small and spatially defined by buildings, trees, and lighting, and when high-speed traffic is discouraged. (Policy V.A.2)

AQ-35. Prepare and maintain a citywide transportation improvement program for all modes of travel, considering the development context when selecting which improvements should be included in the Capital Improvement Program. (Policy V.A.3)

AQ-36. Update and maintain a Capital Facilities Fee program to contribute to multi-modal transportation improvement projects of local and regional significance. (Policy V.A.4)

AQ-37. In the case of conflict between motorized and non-motorized transportation modes, roadway or right-of-way features may be added or altered to protect pedestrians and bicyclists, consistent with Urban Area General Plan goals. (Policy V.A.5)

AQ-38. Level of Service and Quality of Service for all transportation modes (vehicle, transit, bicycle and pedestrian) on City roadways should be improved over time consistent with the financial resources reasonably available to the City and without unreasonably burdening property owners or developers. On roadways where the automobile LOS is expected to be level F, the City will consider mitigation measures other than road widening, such as the addition of bicycle lanes, improved pedestrian access, improved transit service, and the establishment of walkable development patterns to improve the quality of service for all travel modes. (Policy V.A.6)

AQ-39. Where traffic volumes, development types and access patterns provide opportunity, a four-lane street may be narrowed to a two-lane street, with a center turn lane, in order to better accommodate on-street parking, bicycle facilities and other amenities. These types of complete street retrofit projects are generally intended to enhance facilities for non-motorized travel modes, within an existing right-of-way, without resulting in reduced functionality for the motoring public. Maintaining high-quality transit service is equally important. (Policy V.A.7)

AQ-40. Many streets in the built city are constrained from further widening by existing development. For street segments identified in the table below (also see Figure V-4), right-of-way dedications in conjunction with any development will be limited to obtaining that necessary to close a gap in: a) the number of vehicle lanes; b) bicycle lanes; c) sidewalk / curb / gutter; or, d) be a feasible mitigation measure that can't otherwise be achieved by means such as restriping within the existing right-of-way. Standard design specifications such as travel lane width or intersection design criteria may be waived or modified at the discretion of the City Engineer. Additional right-of-way may be needed at key arterial / arterial intersections to allow for turning lanes, if appropriate at any particular location(s). (Policy V.A.8)

AQ-41. Reduce per capita automobile vehicle miles traveled and per capita automobile trips. To facilitate walking, particularly to and from transit stops, and to reduce automobile trip lengths blocks should be short and streets should frequently intersect. (Goal V.B)

AQ-42. Design roadways and roadway connections to: provide a grid street system featuring short blocks and frequent connections to collectors and arterials to improve connectivity and

accessibility for all modes; increase route choice; better accommodate public transit services; and reduce trip lengths, traffic congestion, and pollution. To promote walking, limit block size to no more than 600 feet on a side, and provide internal access via alleys or walkways (any block-face less than 400 feet long need not have alleys or walkways). Cul-de-sacs are discouraged and, when deemed necessary, cul-de-sacs should include pedestrian and bicycle connections to the greatest extent possible. (Policy V.B.1)

AQ-43. Frequent multiple-leg intersections increase street connectivity and walkability, while reducing trip lengths. Intersection density will be used to measure the degree of walkability of an area where streets have not yet been laid out. LEED ND defines walkability as a minimum threshold of 140 intersections per square mile. Higher intersection density indicates that an area is more walkable. By way of example, Modesto's one-square-mile downtown grid contains approximately 140 intersections. (Policy V.B.2)

AQ-44. Streets and roads in the downtown area are constrained (see UAGP Policy V.A.6). Transportation mitigation may be applied to projects in that area to facilitate non-automobile travel through means such as sidewalk widening and adding bicycle lanes and increasing transit service. (Policy V.C.3)

AQ-45. If it is determined that a site access study is needed in the downtown area, that study shall evaluate movement conflicts across all modes (walking, bicycle, car, bus, train) with an emphasis on facilitating non-automobile travel. (Policy V.C.4)

AQ-46. Outside of the downtown area, consider and balance the effects of automobile traffic mitigation on non-automobile travel – particularly in areas where the city is attempting to improve conditions that support non-automobile travel – when considering solutions to traffic circulation problems. (Policy V.C.5)

AQ-47. Ensure that pedestrians of all ages and abilities feel safe using pedestrian facilities in order to eliminate safety as a barrier to walking for transportation. (Goal V.D)

AQ-48. Add median refuges along arterials and four-lane collectors in areas where pedestrian traffic is to be facilitated to give pedestrians a safe halfway point for street crossings. (Policy V.D.1)

AQ-49. Add sidewalk bulbouts in areas where pedestrian traffic is to be facilitated to reduce crossing distance and improve visibility of pedestrians to other roadway users. (Policy V.D.2)

AQ-50. Identify gaps, needs, and deficiencies in the pedestrian transportation network. (Policy V.D.3)

AQ-51. The green phase of traffic signals citywide should be timed to allow pedestrians of all ages and abilities to safely cross the street. The Federal Highway Administration's Best Practices

Design Guide for Designing Sidewalks and Trails for Access, suggests crossing times should allow for pedestrians traveling 3.5 feet per second or slower. (Policy V.D.4)

AQ-51. Consider funding bicycle facilities as a priority in the Capital Improvement Program. (Policy V.E.2)

AQ-52. When streets are repaired or resurfaced, add bicycle facilities to those streets as appropriate with striping, stencils, and/or signage, consistent with UAGP Figure V-3. (Policy V.E.3)

AQ-53. Increase bicycle ridership for transportation purposes through the addition of bicycle facilities, such as a bike-share program, and other system improvements. (Policy V.E.4)

AQ-54. Street projects should be evaluated to determine how the planned bicycle facilities can be accommodated. (Policy V.E.6)

AQ-55. Where right-of-way constraints exist, a "sharrow" may be used to supplement Class II bicycle facilities where vehicle speeds do not exceed 25 mph. (Policy V.E.7)

AQ-56. Protected intersection design features, bike boxes and bicycle detection systems may be used to delineate bicycle facilities, improve safety, and allow bicycle traffic to trigger the green phase of a traffic signal. In accordance with California Vehicle Code Section 21450.5, sensors that detect the presence of a waiting bicycle should be added to signalized intersections when signals are installed, upgraded and/or maintained. Other markings and signage may be used as approved by the City Engineer. (Policy V.E.8)

AQ-57. The green phase of traffic signals throughout Modesto should be timed to allow bicycle riders of all ages and abilities to cross the street safely. (Policy V.E.9)

AQ-58. Increase transit use through higher-frequency service of at least 15-minute headways downtown and along major transportation corridors. Transit and land use will be interconnected to support increased ridership. (Goal V.F)

AQ-59. Provide the most frequent service feasible in order to facilitate the highest quality public transportation. (Policy V.F.1)

AQ-60. Maintain farebox recovery ratios sufficient to meet state requirements while maximizing service, especially in the heavy use areas identified in UAGP Goal V.F. (Policy V.F.2)

AQ-61. Provide service on a half-mile grid where feasible to make the service as accessible as possible. Newly developing areas should provide a street pattern capable of accommodating transit service on a half-mile grid. Sidewalks should be provided in the development of new roadway systems to accommodate bus stops, and to minimize walking distance between them. (Policy V.F.3)

AQ-62. Coordinate bus and other feeder service with passenger rail and other long-distance transit service to facilitate transfers between services and reduce auto use. (Policy V.F.9)

AQ-63. Strengthen Modesto's value as county seat and center of activity and transportation in Stanislaus County by building a passenger rail station in downtown, consistent with the California High Speed Rail Authority's service goals and with the Altamont Commuter Express' expansion plans. (Goal V.G)

AQ-64. Support a healthy, safe Modesto by reducing trip lengths and vehicle miles traveled per capita, reducing collision rates, supporting the increased use of alternative modes, and helping reduce greenhouse gas emissions and other air pollutants, while balancing the transportation needs of all travelers. (Goal V.H)

AIR QUALITY ELEMENT GOALS AND POLICIES

AQ-65. Implement measures to reduce motor vehicle use and related ozone precursor and PM10 emissions through changes to the transportation infrastructure. Potential measures to be implemented may include those shown in Section V-2 of the Final Master Environmental Impact Report. (Policy VII.H.2.a)

AQ-66. Implement measures to reduce vehicle use and associated emissions related to existing and future land use development in the City of Modesto. Potential measures to be implemented may include those shown in Section V-2 of the Final Master Environmental Impact Report. (Policy VII.H.2.a)

AQ-67. Implement measures to reduce emissions associated with energy use by residences and businesses. Potential measures to be implemented may include those shown in Section V-2 of the Draft Master EIR. (Policy VII.H.2.c)

AQ-68. The City of Modesto recognizes the efforts of the San Joaquin Valley Air Pollution Control District to identify the cumulative transportation and air quality impacts of all General Plan amendments approved during the previous year. This measure is intended to track the effectiveness of current air quality–related programs and guide revision to these programs through periodic review of cumulative air quality impacts in the City. (Policy VII.H.2.d)

The City of Modesto encourages employers to implement the following measures:

1) In-house matching services (for carpools and vanpools) at employers with over 100 weekday employees, or at large development sites occupied by several smaller employers, or coordination with Caltrans' "Commuter Computer" program;

2) Employer-based dissemination of commute information;

3) Employer subsidies for transit passes and incorporation of transit stop facilities into site design;

4) A program to guarantee rideshare participants a ride home in case of emergency;

5) Flex-time scheduling;

6) Site plan design that encourages pedestrian movement between adjacent land uses;

7) Incentives such as preferred parking for carpoolers;

8) Encouraging submission of site plans featuring mixed land uses or "neo-traditional" design; and,

9) Encouraging employers to experiment with telecommuting options, where feasible.

AQ-69. Work with neighboring jurisdictions and affected agencies to address cross- jurisdictional and regional transportation and air quality issues. (Policy VII.H.2.e)

AQ-70. Coordinate with other jurisdictions and other regional agencies in the San Joaquin valley to establish parallel air quality programs and implementation measures (trip reduction ordinances, indirect source programs, etc.). (Policy VII.H.2.f)

AQ-71. Implement measures to reduce emissions associated with future development through the CEQA review process. Section V-2 of the MEIR describes those measures to be implement-ted, as well as additional measures that may be implemented at the discretion of the City. (Policy VII.H.2.g)

AQ-72. Consult with the SJVAPCD during CEQA review for discretionary projects with the potential for causing adverse air quality impacts. (Policy VII.H.2.h)

AQ-73. Consider supporting investment in geographic information system technology. (Policy VII.H.2.i)

AQ-74. Work to improve the public's understanding of the land use, transportation, and air quality relationships. (Policy VII.H.2.j)

AQ-75. Encourage local public and private groups to provide air quality education programs. (Policy VII.H.2.k)

AQ-76. Encourage new air pollution sources such as, but not limited to, industrial, manufacturing, and processing facilities to be located an adequate distance (based on pollutant dispersion characteristics, site orientation, prevailing winds, etc.) from residential areas and other sensitive receptors. (Policy VII.H.2.l)

AQ-77. Implement measures to reduce the temporary, yet potentially significant, local air quality impacts from construction activities. Potential measures to be implemented may include

those measures shown in Section V-2 of Master Environmental Impact Report. (Policy VII.H.2.m)

AQ-78. Require residential development projects and projects categorized as sensitive receptors (hospitals, schools, convalescent homes, etc.) to be located an adequate distance from existing and potential sources of toxic and/or odorous emissions such as freeways, major arterials, industrial sites, refuse transfer or disposal sites, and hazardous material locations. (Policy VII.H.2.n)

AQ-79. Determine project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD. (Policy VII.H.2.o)

AQ-80. Ensure that air quality impacts identified during CEQA review are consistently and fairly mitigated. (Policy VII.H.2.p)

AQ-81. Ensure all air quality mitigation measures are feasible, implementable, and cost effective. (Policy VII.H.2.q)

AQ-82. Identify the cumulative transportation and air quality impacts of all General Plan amendments approved during the previous year. (Policy VII.H.2.r)

AQ-83. Reduce the air quality impacts of development projects that may be insignificant by themselves, but cumulatively are significant. (Policy VII.H.2.s)

AQ-84. Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties. (Policy VII.H.2.t)

AQ-85. Review of new development shall be coordinated with SJVAPCD staff to ensure all projects subject to the SJVAPCD Rule 9510 (Indirect Source Review) comply fully with the rule. This rule fulfills the SJVAPCD's emission reduction commitments in the PM10 and Ozone Attainment Plans through emission reductions from the construction and use of development projects through design features and onsite measures. Rule 9510 applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which meets certain minimum thresholds. (Policy VII.H.2.u)

AQ-86. A Construction Health Risk Assessment shall be required on a project-by-project basis if, at the direction of SJVAPCD after applicant consultation, the specific project is considered to have a potentially significant project-level health risk impact, through refined modeling using 2015 OEHHA guidance (or the latest accepted methodology), to identify impacts and, if necessary, include measures determined by SJVAPCD to reduce exposure. (Policy VII.H.2.v)

AQ-87. Future development that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within the setback distances from highways, railroads, local roadways, and stationary sources specified below shall require site-specific analysis to determine the level of TAC and PM2.5 exposure. This analysis shall be

conducted following methodology and procedures recommended by SJVAPCD and OEHHA. If the site- specific analysis reveals significant exposures, such as cancer risk greater than 20 in one million or acute or chronic hazards with a Hazard Index greater than 1.0, additional measures (described below) shall be required to reduce the risk below the threshold. (Policy VII.H.2.w)

Setback screening distances:

a) Gasoline dispensing facilities: 300 feet for large facilities (3.6 million gallons of throughput a year or more) and 50 feet for smaller facilities;

b) Dry cleaning facilities: 300 feet for facilities that emit Perchlorethylene;

c) Distribution centers: 1,000 feet;

d) Chrome platers: 1,000 feet;

e) Freeways, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day or more: 500 feet;

f) BNSF rail line: 800 feet from 2020-2024, and 500 feet for 2025 and later; and,

g) UP rail line: 200 feet east of the rail line and 300 feet west of the rail line from 2020- 2024, and 100 feet east of the rail line and 200 feet west of the rail line for 2025 and later.

Future non-residential developments containing potentially significant TAC sources would be evaluated in consultation with SJVAPCD to ensure that they do not cause a significant health risk in terms of excess cancer risk greater than 20 in one million, or acute or chronic hazards with a Hazard Index greater than 1.0. This analysis shall be conducted following methodology and procedures recommended by SJVAPCD and OEHHA. If the site-specific analysis reveals significant exposures, additional measures shall be required as described below to reduce the risk to below the threshold.

If the analysis shows the cancer risk exposure is significant, then the project sponsor shall submit performance specifications and design details to demonstrate that lifetime residential exposures would be reduced to a level of less-than-significant under the applicable threshold subject to approval by the City. The specifications or design standards may include the following or other comparable measures:

i. Install air filtration systems rated MERV-13 or higher and a maintenance plan for the air filtration system shall be implemented.

ii. Plant trees and/or vegetation between sensitive receptors and pollution sources, if feasible. Trees that are best suited to trapping particulate matter shall be planted, including the following: Pine (Pinus nigra var. maritime), Cypress (X

Cupressocyparis leylandii), Hybrid popular (Populus deltoids X trichocarpa), and Redwoods (Sequoia sempervirens).

iii. Design sites to locate sensitive receptors as far as possible from any freeways, roadways, diesel generators, distribution centers, and rail lines.

iv. Locate operable windows, balconies, and building air intakes as far away from these sources as feasible. If near a distribution center, residents shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.

AQ-88. Coordinate land use planning to prevent new odor complaints. Consult with SJVAPCD, as necessary, to identify the potential for odor complaints from various existing and planned or proposed land uses and development projects. Prohibit new sources of odors that have the potential to result in frequent odor complaints unless it can be shown that potential odor complaints can be mitigated where feasible. Prohibit sensitive receptors from locating near odor sources where frequent odor complaints would occur, unless it can be shown that potential odor complaints can be mitigated where feasible. (Policy VII.H.2.x)

AQ-89. Consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community. (Policy VII.H.2.y)

AQ-90. All transportation improvement projects to be included in regional transportation plans (RTP, RTIP, CMP, etc.) should be consistent with the air quality goals and policies of the General Plan. (Policy VII.H.2.z)

AQ-91. Consult with transit providers to determine project impacts on long-range transit plans and ensure that impacts are mitigated where feasible. (Policy VII.H.2.aa)

AQ-92. Work with the Housing Authority, transit providers, and developers to encourage the construction of low-income housing developments that use transit-oriented and pedestrian- oriented design principles. (Policy VII.H.2.bb)

AQ-93. Work with Caltrans and the Regional Transportation Planning Agency to minimize the air quality, mobility, and social impacts of large scale transportation projects on existing neighborhoods. (Policy VII.H.2.cc)

AQ-94. Implement employer-based trip reduction programs for their employees. (Policy VII.H.2.dd)

AQ-95. Replace or convert conventional fuel vehicles with clean fuel vehicles as feasible, within the City's motorpool fleet, considering budgetary constraints. (Policy VII.H.2.ee)

AQ-96. Support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible. (Policy VII.H.2.ff)

AQ-97. Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives. (Policy VII.H.2.gg)

AQ-98. Work to establish public / private partnerships to develop satellite and neighborhood work centers for telecommuting. (Policy VII.H.2.hh)

AQ-99. Encourage the development of state of the art communication infrastructure linked to the rest of the world. (Policy VII.H.2.ii)

AQ-100. Reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible in accordance with the requirements of SJVAPCD Regulation VIII. Regulation VIII was adopted to reduce the amount of particulate matter suspended in the atmosphere as a result of emissions generated from anthropogenic (man-made) fugitive dust sources. (Policy VII.H.2.jj)

AQ-101. Require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions in accordance with the requirements of SJVAPCD Regulation VIII and are appropriate to the scale and intensity of use. (Policy VII.H.2.kk)

AQ-102. Reduce PM10 emissions from City–maintained roads to the maximum extent feasible. (Policy VII.H.2.ll)

AQ-103. Effectively stabilize dust emissions using water, chemical stabilizer / suppressant, cover with a tarp or other suitable cover or vegetative ground cover, all disturbed areas, including storage piles, which are not being actively utilized for construction purposes. (Policy VII.H.2.mm)

AQ-104. Effectively stabilize dust emissions using water or chemical stabilizer / suppressant, all onsite unpaved roads and off-site unpaved access roads. (Policy VII.H.2.nn)

AQ-105. Effectively control fugitive dust emissions utilizing application of water or by presoaking all land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities. (Policy VII.H.2.oo)

AQ-106. Wet all exterior surfaces of buildings that are more than six stories tall during demolition. (Policy VII.H.2.pp)

AQ-107. When materials are transported off site, cover all materials, or effectively wet them to limit visible dust emissions, and maintain at least six inches of freeboard from top of container. (Policy VII.H.2.qq)

AQ-108. Limit operations or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday (the use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) (Policy VII.H.2.rr)

AQ-109. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, effectively stabilize said piles for fugitive dust emissions utilizing sufficient water or chemical stabilizer / suppressant. (Policy VII.H.2.ss)

AQ-110. Within urban areas, immediately remove trackout when it extends 50 or more feet from the site and at the end of each workday. (Policy VII.H.2.tt)

AQ-111. Prevent carryout and trackout for any site with 150 or more vehicle trips per day. (Policy VII.H.2.uu)

AQ-112. Limit traffic speeds on unpaved roads to 15 mph. (Policy VII.H.2.vv)

AQ-113. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent (1%). (Policy VII.H.2.ww)

AQ-114. Install wheel washers for all exiting trucks, or wash all trucks and equipment leaving the site. (Policy VII.H.2.xx)

AQ-115. Install wind breaks at windward side(s) of construction areas. (Policy VII.H.2.yy)

AQ-116. Suspend excavation and grading activity when winds exceed 20 mph (regardless of windspeed, an owner/operator must comply with Regulation VIII's 20 percent opacity limit). (Policy VII.H.2.zz)

AQ-117. Limit the area subject to excavation, grading, and other construction activity at any one time. (Policy VII.H.2.aaa)

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan will have a significant impact on the environment associated with air quality if it will:

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

METHODOLOGY

Nearly all development projects within the San Joaquin Valley Air Basin, from general plans to individual development projects have the potential to generate air pollutants, making it more difficult to attain State and Federal ambient air quality standards. Therefore, it is necessary to

evaluate air quality impacts to comply with CEQA. As identified in the SJVAPCD's *Guidance for Assessing and Mitigation Air Quality Impacts* (GAMAQI) (i.e. CEQA Guidelines), land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs and motor vehicle emissions are the largest source of air pollution. Land use decisions and project design elements such as preventing urban sprawl, encouraging mixed-use development, and project designs that reduce vehicle miles traveled (VMT) have proven benefit for air quality.

The GAMAQI further states that the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the determinations from Appendix G of the State CEQA Guidelines. The SJVAPCD has specified significance thresholds within its GAMAQI to determine air quality impacts for projects located within the valley air basin.

The SJVAPCD has determined that compliance with its Regulation VIII Fugitive PM_{10} Prohibitions, including implementation of all feasible control measures specified in its GAMAQI, is sufficient mitigation to minimize adverse air quality effects from construction-related PM_{10} emissions to less-than-significant levels. Since the publication of the SJVAPCD's GAMAQI, the SJVAPCD has revised various rules comprising Regulation VIII. Guidance from SJVAPCD staff indicates that implementation of a dust control plan would satisfy all of the requirements of SJVAPCD Regulation VIII.

As discussed above, the SJVAPCD's GAMAQI includes project-level thresholds and land use screening sizes for criteria air pollutants. However, these are not appropriate for use at the plan level, but would be used to assess the impact of individual proposed projects under buildout of the Plan. Individual projects would need to comply with the SJVAPCD's Regulation VIII regarding particulate matter emissions from construction activities. Compliance with SJVAPCD Regulation VIII and the local zoning code will reduce particulate emission impacts to levels that are considered less than significant by the SJVAPCD.

The SJVAPCD GAMAQI considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard, to be significant. For cancer risk, which is a concern with diesel particulate matter and other mobile-source TACs, the SJVAPCD considers an increased risk of contracting cancer that is 20 in one million chances or greater, to be significant risk for a single source. Non-cancer risk would be considered significant if the computed Hazard Index (HI) is greater than 1.0.[20]

The analysis presented below was completed to include both a qualitative and a quantitative approach, to analyze the Project's consistency with the SJVAPCD's GAMAQI and other applicable rules and regulations.

[20] The Hazard Index is the ratio of the computed receptor exposure level to the level known to cause acute or chronic adverse health impacts.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants (Less than Significant)

Potential to Conflict or Obstruct Implementation of Air Quality Plan

The SJVAPCD is the regional agency responsible for overseeing compliance with State and federal laws, regulations, and programs within the Valley. The SJVAPCD has developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts from the implementation of General Plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. If approval of the proposed General Plan would cause the disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be inconsistent with the applicable air quality plans. The SJVAPCD's most current air quality plans for PM, ozone, and carbon monoxide are (respectively) the *2024 Plan for the 2012 Annual $PM_{2.5}$ Standard*, the *2022 Plan for the 2015 8-Hour Ozone Standard*, and the *2004 Revisions to the Carbon Monoxide Maintenance Plan*.[21] These plans are also known is "Air Quality Attainment Plans". The SJVAPCD's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs.

The UAGP includes an extensive list of goals and policies that are specifically aimed at improving air quality. These policies and actions, which are provided in the Regulatory Setting, limit impacts to air quality including by reducing the number and length of vehicle trips, supporting green and sustainable building development, promoting the use of renewable energy, and encouraging the conservation of resources. The goals and policies included throughout the proposed General Plan cover the full breadth of air quality issues as recommended in the applicable air quality plans. The proposed General Plan does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the applicable air quality plans. All future development and infrastructure projects within the Planning Area would be subject to the above-referenced General Plan goals and policies, which were adopted to reduce emissions and air quality impacts. Therefore, the Project would have a ***less than significant*** impact relative to this topic.

Potential to Result in a Cumulatively Considerable Net Increase of Criteria Pollutants

Implementation of the UAGP would result in short-term emissions from construction activities associated with subsequent development, including site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction

[21] These plans are available here: https://ww2.valleyair.org/rules-and-planning/air-quality-plans/particulate-matter-plans/

activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM_{10} and $PM_{2.5}$ emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impacts from construction are addressed below under Significance Threshold "d" (Expose Sensitive Receptors to Substantial Pollutant Concentrations).

Demolition and renovation of buildings can also generate PM_{10} and $PM_{2.5}$ emissions. Off-road construction equipment is often diesel-powered and can be a substantial source of NOX emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Worker commute trips and architectural coatings are dominant sources of ROG emissions. The SJVAPCD GAMAQI does not identify plan-level thresholds that apply to construction. The SJVAPCD GAMAQI emphasizes implementation of effective and comprehensive control measures rather than requiring a detailed quantification of construction emissions. SJVAPCD adopted a set of PM_{10} fugitive dust rules collectively called Regulation VIII. This regulation essentially prohibits the emissions of visible dust (limited to 20 percent opacity) and requires that disturbed areas or soils be stabilized. Compliance with Regulation VIII during the construction phases of the various projects under the UAGP would be required. Prior to construction of each project developed under the UAGP, the applicant would be required to submit a dust control plan to the District that meets the regulation requirements. These plans are reviewed by SJVAPCD and construction cannot begin until District approval is obtained. Anyone who prepares or implements a Dust Control Plan must attend a training course conducted by the District. Construction sites are subject to SJVAPCD inspections under this regulation.

The SJVAPCD Indirect Source Review Rule (Rule 9510) applies to construction of projects that would exceed certain sizes. Rule 9510 ensures that projects contribute their share of emission reductions to achieve the basin-wide reduction targets established in the Air District's ozone and particulate matter attainment plans. Rule 9510 would require that projects reduce construction exhaust emissions by 20 percent for NOx and 45 percent for PM_{10}. SJVAPCD encourages reductions through on-site mitigation measures (note: use of the term "mitigation" under Rule 9510 does not necessarily refer to mitigation of impacts under CEQA. If a project would not exceed the CEQA significance thresholds, no mitigation under CEQA would be required). A combination of on-site and off-site (fee-based) measures can be implemented to meet the overall emission reduction requirements.

Without application of appropriate control measures to reduce construction dust and exhaust, construction period impacts at the project level would be considered a potentially significant impact. Implementation of proposed UAGP Policies VII.H.2.jj through VII.H.2.aaa, as applicable, would reduce this impact to less than significant.

As discussed above, Rule 9510 would not be considered mitigation under CEQA. However, it would require that construction exhaust emissions be reduced by 20 percent for NOx and 45 percent for PM_{10}. Additionally, implementation of the proposed Project could result in cumulatively

considerable long-term area and mobile source emissions, resulting from operation and use of subsequent development. This impact would be significant and unavoidable.

Implementation of the UAGP could include stationary sources of pollutants that would be required to obtain permits to operate in compliance with SJVAPCD rules. These sources include, but are not limited to, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. The permit process ensures that these sources would be equipped with the required emission controls and that, individually, these sources would result in a less than significant impact.

As discussed above, the SJVAPCD GAMAQI does not have thresholds related to direct and indirect regional criteria pollutant emissions resulting from plan implementation. Under Rule 9510, projects would be required to reduce operational NOx emissions by 33 percent and operational PM_{10} emissions by 50 percent over ten years.

Overall, the Project would have a ***less than significant*** impact relative to this topic.

Conclusion

Implementation of the UAGP, which does not conflict with federal and state guidelines, would have a ***less than significant*** impact relative to this topic and would be consistent with the applicable air quality plans, and would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The following quantitative analysis describes VMT and population increases associated with implementation of the UAGP, inclusive of proposed amendments to the General Plan and zoning ordinance, which are associated with the Project. The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The proposed General Plan is intended to maintain a balanced ratio of jobs to housing units within the city.

As part of the transportation analysis, Iteris (the traffic consultant) modeled VMT for the Planning Area for air quality analysis purposes. The existing (as of 2019) VMT per day for the Planning Area is approximately 3,876,179, and VMT per day for the Planning Area at buildout (inclusive of the proposed amendments to the General Plan and zoning ordinance) is expected to be 5,356,318.

As of 2019, the Planning Area had an existing population of approximately 265,178. Full buildout of the General Plan (inclusive of the proposed amendments to the General Plan and zoning ordinance) could generate up to 117,107 new residents, for a total population of 382,284 at buildout. Modesto has an existing jobs base of approximately 110,815 jobs. Full buildout of the Planning Area (inclusive of the proposed amendments to the General Plan and zoning ordinance) is anticipated to generate up to 57,049 new jobs in Modesto, resulting in 167,861 total jobs at buildout. Table 3.3-6 shows the combined population and jobs growth generated by the proposed

project, compared to existing levels within the city. Table 3.3-7 shows the existing baseline VMT and projected VMT following buildout of the proposed project.

TABLE 3.3-6: COMBINED JOBS AND HOUSING GROWTH

EXISTING JOBS + POPULATION IN MODESTO	375,989
NEW JOBS + POPULATION GENERATED BY PROJECT	550,145
PERCENT INCREASE IN JOBS + POPULATION	46.3%

SOURCE: ITERIS, 2024

TABLE 3.3-7: EXISTING AND PLUS-PROJECT VMT (PER DAY)– PLANNING AREA

EXISTING VMT	3,876,179
EXISTING PLUS PROJECT VMT	5,356,318
PERCENT INCREASE IN VMT	38.2%

SOURCE: ITERIS, 2024

As shown in the two tables above, implementation of the Project (inclusive of the proposed amendments to the General Plan and zoning ordinance) would result in an approximately 38.2% increase in citywide VMT, less than the 46.3% increase in combined population and jobs. Therefore, the growth rate associated with the proposed General Plan (inclusive of the proposed amendments to the General Plan and zoning ordinance) is less than the VMT increase associated with it. Therefore, the proposed project is not anticipated to result in VMT increases on a per service population basis. Overall, the VMT per service population would be reduced from 10.31 under the existing scenario to 9.74 under the future scenario with implementation of the General Plan (inclusive of the proposed amendments to the General Plan and zoning ordinance).

The VMT results indicate the VMT per capita and the VMT per service population With Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within both the City and the full Planning Area. This represents an improvement in VMT efficiency compared to the current General Plan. The proposed General Plan would further the fundamental goals of the SJVAPCD in reducing emissions of criteria pollutants associated with vehicle miles traveled, would assist the city in achieving a more balanced jobs to housing ratio, and would increase opportunities for transit ridership in Modesto and the surrounding areas. The list of policies provided in the Regulatory Setting would work to further criteria pollutant emissions, including reviewing projects for conformance with applicable air quality plans and regulations, reducing energy demands, and implementing methods to reduce vehicle miles traveled. Therefore, this impact is considered ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to air quality: Policies AQ-1 through AQ-117. These policies address air quality, efficient land use design, and transportation efficiency and transportation mode choice.

Impact 3.3-2: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations (Significant and Unavoidable)

Subsequent land use activities associated with implementation of the UAGP could potentially include short-term construction sources of TACs and long-term operational sources of TACs, including stationary and mobile sources.

TEMPORARY CONSTRUCTION SOURCES

Implementation of the UAGP would result in the potential construction of a variety of projects. This construction would result in short-term emissions of diesel particulate matter (DPM), a TAC. Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Cancer risk and $PM_{2.5}$ exposure would have to be analyzed through project-level analysis to identify the potential for significant impacts and measures to reduce those impacts to less than significant. Health risks associated with temporary construction would, therefore, be considered potentially significant.

Application of proposed UAGP Policy AQ-86 (which calls for a construction health risk assessment to be prepared when warranted; listed above) would reduce this impact to a ***less than significant*** level.

LONG-TERM OPERATIONAL SOURCE

The SJVAPCD GAMAQI considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard, to be significant. For cancer risk, which is a concern with diesel particulate matter and other mobile-source TACs, the SJVAPCD considers an increased risk of contracting cancer that is 20 in one million chances or greater, to be significant risk for a single source. Non-cancer risk would be considered significant if the computed Hazard Index (HI) is greater than 1.0.[22]

The UAGP would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near arterial and collector roadways, highways, rail lines, and stationary sources of TAC emissions. Sensitive receptors within the Planning Area would be exposed to levels of TACs and/or $PM_{2.5}$ that could cause an unacceptable risk or hazard.

[22] SJVAPCD, Air Quality Thresholds of Significance – Toxic Air Contaminants. Available online: http://www.valleyair.org/transportation/0714-GAMAQI-TACs-Thresholds-of-Significance.pdf.

Stationary Sources

The Planning Area has numerous permitted stationary sources. These sources are located throughout the city, but mostly in industrial and commercial areas. The impact of these sources can only be addressed on a project-by-project basis, since impacts are generally localized. New residences and sensitive receptors could be located near stationary sources of TACs located throughout the city, such as gasoline dispensing stations, emergency back-up diesel generators, and dry cleaners. Without proper setbacks or mitigation measures, these sources could result in TAC levels that would be significant for new sensitive receptors.

Gasoline Stations

CARB recommends a setback of 300 feet for large gasoline dispensing facilities (3.6 million gallons of throughput a year) and 50 feet for small facilities.

Dry Cleaning Facilities

Perchlorethylene (Perc) is the solvent used commonly in past dry-cleaning operations. Perc is a TAC because it has the potential to cause cancer. In 2005, CARB recommended setbacks of 300 feet between dry cleaning facilities that emit Perc and sensitive land uses. Since then, CARB has enacted new rules to substantially reduce Perc emissions and required the phase out the use of TACs in dry cleaning by 2023.

Emergency Back-Up Generators

Electricity generators that are powered by diesel engines are common. They are typically located at facilities where uninterrupted electricity is necessary. Common facilities include fire and police stations, hospital or medical treatment facilities, pump stations, schools, offices, and data centers. Diesel engines powering these generators are regulated by SJVAPCD and CARB. CARB has established strict emissions limits and operating restrictions for engines larger than 50 horsepower. As a result, all new engines have very localized impacts and would not be permitted if they would cause significant cancer risks or hazards.

Other Sources

CARB recommends a setback of 1,000 feet for both distribution centers and chrome platers.

HIGHWAY AND ROADWAY TRAFFIC

The CARB Air Quality and Land Use Handbook recommends avoiding siting new sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles per day (vpd) or rural roads with 50,000 vpd. However, this is not always feasible. Project-level analysis would be required for proposed receptor setbacks of lesser distances, including possible refined dispersion modeling of TACs.

RAILROAD OPERATIONS

Potential health effects from railroad traffic along the Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railway (BNSF) rail lines in Modesto were evaluated. The BNSF rail line is located along the eastern edge of Modesto and the UPRR rail line parallels Highway 99 along the western side of the city. The BNSF rail line is used by trains for passenger and freight service, while

the UP rail line is used only for freight service. Passenger rail service on the BNSF line consists of the Amtrak San Joaquin passenger line with 14 trains per day. In addition, based on data from the U.S. Department of Transportation there are about 46 freight trains that use the BNSF rail line and 18 to 20 freight trains on the UP line daily.[23] All passenger and freight trains using these rail lines use diesel powered locomotives and emit diesel exhaust from the engines.

The rail analysis is meant to show screening levels of increased cancer risks to new residents who would be locating in areas designated as residential, village residential, or mixed use along the rail lines. Since DPM emissions from locomotives will be decreasing over time due to on-going implementation of U.S. EPA locomotive emission standards, cancer risks were evaluated for two exposure scenarios. The first one is where exposure would begin in about 2020 and the second where exposure would begin in about 2025.

The volume of train activity, operating characteristics, and rail line orientation has a considerable effect on the level of exposure to DPM and cancer risk. For this analysis, approximately 3,000-foot segments of the rail line in the vicinity of potential future residences were evaluated. To account for differences in rail line locations and operating characteristics, two cases were evaluated.

Case 1 is for trains traveling on the BNSF rail line on a segment of the rail line adjacent to areas of potential future residential development in the eastern side of the General Plan area. Passenger and freight trains running along this section of rail line were assumed to be traveling at an average speed of 40 mph.

Case 2 is for freight trains traveling on the UPRR rail line on a segment of the rail line adjacent to areas of potential future residential development in the western side of the General Plan area. Freight trains running along this section of rail line were assumed to be traveling at an average speed of 40 mph.

RAIL LINE EMISSIONS MODELING

DPM emissions from trains on the rail line were calculated using EPA emission factors for locomotives and CARB adjustment factors to account for fuels used in California. Since the exposure duration used in calculating cancer risks is 70 years, emissions for the period from 2025 through 2094 for exposures starting in 2025. Average DPM emissions were calculated based on EPA emission factors for the periods 2025-2030, and 2030-2094.

Amtrak's passenger trains in this area generally use locomotives with 3,200 horsepower (hp) diesel engines. In estimating diesel locomotive emissions, all passenger train locomotives were assumed to have 3,200 hp engines. Each passenger train was assumed to use one locomotive and would be traveling at an average speed of 40 mph. UPRR freight trains in California range in size from about

[23] U.S. Department of Transportation, Federal Railroad Administration, U.S. DOT Crossing inventory Form for DOT Crossing Inventory number 028744N (2nd Street, Empire) and 752855A (Woodland Avenue in Modesto).

1,500 hp to 4,000 hp, with a fleet average horsepower of about 2,200 hp.[24] For this evaluation, it was assumed that the UPRR freight train locomotives use 2,300 hp engines. BNSF freight trains in California range in size from about 1,200 hp to 4,400 hp, with a fleet average horsepower of about 3,440 hp.[25] For this evaluation, it was assumed that the BNSF freight train locomotives use 3,600 hp engines. Emissions from the freight trains were calculated assuming they would use three locomotives and would be traveling at about 40 mph.

RAIL LINE DISPERSION MODELING

Modeling of locomotive emissions was conducted using the EPA's AERMOD dispersion model and five years (2010-2014) of hourly meteorological data from the Modesto Airport prepared for use with the AERMOD model by the San Joaquin Valley Air Pollution Control District (SJVAPCD).[26] Locomotive emissions over the rail segments evaluated were modeled as a line sources (a series of adjacent volume sources) along about 3,000 feet of track. A volume source release height of 5 meters with a plume height of 6 meters was used in the modeling.

Concentrations were calculated at receptors that were placed on both sides of the rail line segments, perpendicular to the rail line, at 50 feet then at every 100 feet out to 1,000 feet from the track centerline, spaced every 164 feet (50 meters) along the rail line segments. Receptor heights were set at 1.5 meters (about 5 feet).

Rail Line Cancer Risk Impacts

Using the modeled long-term average DPM concentrations at each receptor location, the increased cancer risks were computed using the most recent methods recommended by SJVAPCD. The factors used to compute cancer risk are highly dependent on modeled concentrations, exposure period or duration, and the type of receptor. The exposure level is determined by the modeled concentration; however, it must be averaged over a representative exposure period. The averaging period is dependent on many factors, but mostly the type of sensitive receptor being evaluated. This assessment conservatively assumed long-term 70-year residential exposures for two cases, one of which the exposure period starting 2025. The SJVAPCD has developed exposure assumptions for typical types of sensitive receptors.

It should be noted that the procedure to calculate maximum cancer risk assumes that exposure starts at infancy (3rd trimester of pregnancy to age 2) and continues through childhood (ages 2 to 16) and adulthood (ages 16 to 70) and that infants will be present at all receptor locations at the beginning of the exposure period.

The maximum cancer risks from both the BNSF and UPRR rail lines occurred 50 feet from the railroad track centerline and decrease with distance from the rail lines. Trains on the BNSF rail line

[24] Based on 2009 UPRR California Intrastate Locomotives, Available at: http://www.arb.ca.gov/railyard/rrsubmittal/0410upinventory.pdf

[25] Ibid.

[26] SJVAPCD. 2015. Final Staff Report, Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document. May 28, 2015.

would have a significant cancer risk (above 20 in one million excess cancer risk) within approximately 500 feet for exposures starting in 2025. For the UPRR rail line, trains would have a significant cancer risk within about 100 feet east of, and 200 feet west of, the rail line. Potentially significant setback distances for acute and chronic Hazard Index would be greater than those identified above for excess cancer risk.

Since it is unlikely that this impact could feasibly be reduced to a less than significant level, the impact would remain ***significant and unavoidable***. Details of the locomotive emission calculations, rail line modeling, and cancer risk calculations are included in Technical Appendix B of this Draft EIR.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within each respective land use and zoning district. Most areas with the increased density potential are not located along the UP or BNSF rail lines, with a few exceptions as discussed below.

UPRR: Along the UPRR rail line, which generally runs northwest/southeast and parallel with the SR99, there is mostly existing developed residential, mixed use, industrial, and commercial uses. Because these areas are already developed, it is not anticipated that the proposed density changes would have much, if any, effect because these areas are not expected to have any significant redevelopment. These areas are already established and are not anticipated to significantly change. Any redevelopment of these areas is expected to be limited and would need to consider health risks of the redevelopment project once proposed.

BNSF: Along the BNSF rail line, which generally runs northwest/southeast in the eastern portion of the UAGP, there is a combination of existing developed residential and business-commercial-residential, as well as undeveloped village residential designated for the Johansen CPD. The area in the Johansen CPD will require a Specific Plan with detailed design work to be performed prior to any development. The design is anticipated to follow the setback recommendations to ensure that new residents located in that area are outside the elevated cancer risk area. New development of residential uses in this area will always have a potential to result in exposure of residents to health risks based on very site specific adjacent uses and operations, and to account for this the City has adopted varies policies aimed to minimizing health impacts through best design practices for both residences and businesses, including detailed site review of each development as they are proposed.

Conclusion: While it is possible that the proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, would have the potential to place additional residences within the identified significant cancer risk zones, these areas are isolated to the UPRR and BNSP rail corridors. It is anticipated that a buffer of between 100 and 500 feet of the rail line would setback residents far away enough that they would be located outside the elevated risk zone. UAGP policies listed above (AQ-1 through AQ117) would also reduce impacts associated

with air quality, including TACs. Nevertheless, the proposed density changes would not change the previous impact determination of ***significant and unavoidable.***

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to air quality: Policies AQ-1 through AQ-117. These policies address air quality, efficient land use design, and transportation efficiency and transportation mode choice.

Impact 3.3-3: General Plan implementation would not result in other emissions (such as those leading to odors) adversely affecting substantial numbers of people (Less than Significant)

Subsequent land use activities associated with implementation of the UAGP could allow for the development of uses that have the potential to produce odorous emissions either during construction or operation of new development. Additionally, subsequent development activity may result in the construction of sensitive land uses (i.e., residential development) near existing or future sources of odorous emissions. Future construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited.

Significant sources of offending odors are typically identified based on complaint histories received and compiled by SJVAPCD. It is difficult to identify sources of odors without requesting information by specific facility from SJVAPCD. Typical large sources of odors that result in complaints are wastewater treatment facilities, landfills including composting operations, asphalt batch plants, fiberglass manufacturing, feed lots / dairy, food processing facilities, and chemical and rendering plants. Other sources, such as restaurants, paint or auto-body shops, and coffee roasters typically result in localized sources of odors. SJVAPCD considers odor impacts to be significant when there is 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. Table 3.3-8 contains the screening distances for potentially significant odor impacts.

TABLE 3.3-8: SCREENING DISTANCES FOR POTENTIALLY SIGNIFICANT ODOR IMPACTS

TYPE OF FACILITY	*DISTANCE*
Wastewater Treatment Facility	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting / Coating Operations (e.g., auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot / Dairy	1 mile
Rendering Plant	1 mile

The Plan Area includes potential odor sources throughout that could affect new sensitive receptors. Most of these major existing sources are already buffered. However, it is possible that odors may be present. Responses to odors are subjective, and vary by individual and type of use. Sensitive land uses that include outdoor uses, such as residences and possibly daycare facilities, are likely to be affected most by existing odors. The proposed Project does not include policies or implementing measures that address potential conflicts in land uses that could result in odor complaints. As a result, the impact would be considered potentially significant. Application of UAGP Policy AQ-88 (listed above) would reduce this impact to a ***less than significant*** level by resulting in coordination of land use planning efforts with SJVAPCD to prohibit sensitive receptors from locating near odor sources.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. Therefore, this proposed density changes would not change the previous impact determination of ***less than significant.***

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to air quality: Policies AQ-1 through AQ-117. These policies address air quality, efficient land use design, and transportation efficiency and transportation mode choice.

This section describes how development associated with the City of Modesto Urban Area General Plan (UAGP) would affect sensitive biological resources, wildlife, and plant habitat.

No comments on this environmental topic were received during the NOP comment period.

3.4.1 ENVIRONMENTAL SETTING

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. This environmental setting is the baseline for determining whether an impact of the UAGP is significant.

STUDY AREA FOR DIRECT IMPACTS

The study area for sensitive wildlife and plant habitat is the City of Modesto's (City's) planning area.

STUDY AREA FOR CUMULATIVE IMPACTS

This analysis will be based on the plan or projection approach to examining cumulative effects, as provided under Section 15130(b)(1)(B) of the State CEQA Guidelines. Pertinent plans and projections to be used for this purpose are the UAGP, Stanislaus County General Plan and EIR, and Tuolumne River Regional Park Master Plan (TRRP Master Plan). The study area for cumulative impacts on sensitive wildlife and plant habitat is the San Joaquin Valley, generally extending from the Delta in the north to the Tehachapi Mountains in the south, and between the coastal range's foothills to the west and the Sierra Nevada foothills to the east.

KEY TERMS

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. The California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Wildlife (CDFW) tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

Special Status Species. Special status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by Federal, State, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" based on adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term “special status” includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

Waters of the U.S. The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

GEOMORPHIC PROVINCES/BIOREGIONS

The Planning Area is in the central-southern portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The San Joaquin River drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The Planning Area is located within the San Joaquin Valley Bioregion, which is comprised of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous out of ten bioregions in the state, with an estimated 2 million people. The largest cities are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route 99 are the major north-south roads that run the entire length of the bioregion.

The bioregion is bordered on the west by the coastal mountain ranges. Its eastern boundary joins the southern two-thirds of the Sierra bioregion, which features Yosemite, Kings Canyon, and Sequoia National Parks. At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. To the west, south, and east, the bioregion extends to the edges of the valley floor.

Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent. Remnants of the wetland habitats are protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the state's top agricultural producing region with the abundance of fertile soil.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationship (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles, and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

According to the California Wildlife Habitat Relationship System there are nine cover types (wildlife habitat classifications) in the Planning Area out of 59 found in the State. These include: Annual Grassland; Deciduous Orchard, Evergreen Orchard, Vineyard, Irrigated Row and Field Crops; Eucalyptus; Fresh Emergent Wetland; Lacustrine, Riverine; Montane Hardwood; Valley Foothill Riparian; Barren; and Urban. Table 3.4-1 identifies the total area by acreage for each cover type (classification) found in Modesto. Figure 3.4-1 illustrates the location of each cover type (classification) within Modesto. A brief description of each cover type follows.

TABLE 3.4-1: COVER TYPES - CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

COVER TYPE	*CITY LIMITS (ACRES)*	*OUTSIDE SOI (ACRES)*	*GRAND TOTAL (ACRES)*
Annual Grassland	786.8	456.4	1,243.3
Deciduous Orchard, Evergreen Orchard, Vineyard, Irrigated Row and Field Crops	1,483.8	9,623.1	11,106.9
Eucalyptus	12.8	19.5	32.3
Fresh Emergent Wetland	--	16.4	16.4
Lacustrine, Riverine	131.4	95.1	226.5
Montane Hardwood	3.4	--	3.4
Valley Foothill Riparian	392.6	294.5	687.2
Barren	--	45.2	45.2
Urban	21,417.4	7,889.6	29,307.0
Total	**24,228.4**	**18,439.8**	**42,668.2**

SOURCE: SOURCE: CASIL GIS DATA, 2024, CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM, 2024.

Developed Cover Types

Within the Planning Area, there are 11,106.9 acres of deciduous orchard, evergreen orchard, vineyard, irrigated row, and field crops habitat.

Deciduous Orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns usually touch and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Deciduous orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Though some deciduous orchards are non-irrigated, most are irrigated. Some flat soils are flood irrigated, but many deciduous orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most deciduous orchards are in valley or foothill areas, with a few, such as, apples and pears, up to 3,000 feet elevation.

Evergreen Orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns often do not touch and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Evergreen orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Some flat soils are flood irrigated, but most evergreen orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation

systems. Most evergreen orchards are in valley or foothill areas. Except for olive, most evergreen orchard trees are not very frost tolerant.

Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems.

Irrigated Row and Field Crops include a variety of sizes, shapes, and growing patterns. Cotton and asparagus can be three or four feet tall while others may be a foot or less high. Most irrigated row and field crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. Most are annuals, while others, such as asparagus and strawberries are perennial. The annuals are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in the late spring. In some areas of southern California three crops may be grown in a year.

Urban habitats are not limited to any physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the Planning Area, there are 29,307.0 acres of urban habitat.

Herbaceous Cover Types

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Annual precipitation is highest in northern California. Within the Planning Area, there are 1,243.3 acres of annual grassland habitat.

Fresh Emergent Wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing. Within the Planning Area, there are 16.4 acres of fresh emergent wetland habitat.

Tree Dominated Cover Type

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy. Stand structure for this habitat may vary considerably because most eucalyptus have been planted into either row for wind protection or dense groves for hardwood production and harvesting (Cornell 1909, U.S. Forest Service 1933). Eucalyptus is often found in monotypic stands. The genus is composed of over 150 species with high morphological diversity (Cornell 1909). Thus, habitat structure may be affected if more than two or three species coexist. Tree size may vary considerably depending on spacing and species. Typically, trees may range in height from 87 to 133 feet and have diameters (dbh) of 8.6 to 15.1 inches (Walters 1980), with most growth occurring in the first 15 years. Trees more than 152 to 264 feet are not uncommon. Within the Planning Area, there are 32.3 acres of eucalyptus habitat.

Valley Foothill Riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high-water table. The substrate is coarse, gravelly, or rocky soils permanently moist, but probably well aerated (Cheatham and Haller 1975). Most trees are winter deciduous. There is a subcanopy tree layer and an understory shrub layer. Valley-foothill riparian habitats occur in the Central Valley and the lower foothills of the Cascade, Sierra Nevada, and Coast ranges. They are also found in lower slopes at the bases of the Peninsular and Transverse ranges. Within the Planning Area, there are 687.2 acres of valley foothill riparian habitat.

Shrub Cover Type

Montane Hardwood habitat ranges throughout California mostly west of the Cascade-Sierra Nevada crest. East of the crest, it is found in localized areas of Placer, El Dorado, Alpine and San Bernardino Counties. A typical montane hardwood habitat is composed of a pronounced hardwood tree layer, with an infrequent and poorly developed shrub stratum, and a sparse herbaceous layer. On better sites, individual trees or clumps of trees may be only 3 to 4 m (10 to 13 ft) apart. On poorer sites, spacing increases to 8 to 10 m (26 to 33 ft). Canyon live oak and associates are found on a wide range of slopes, especially those that are moderate to steep. Soils are for the most part rocky, alluvial, coarse textured, poorly developed, and well drained. Soil depth classes range from shallow to deep. Canyon live oak, incense-cedar, and a few other associates are also found on ultrabasic soils. Within the Planning Area, there are 3.4 acres of montane hardwood habitat.

Aquatic Habitats Cover Types

Within the Planning Area, there are 226.5 acres of lacustrine and riverine habitat.

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. These habitats may occur in association with any terrestrial habitats, Riverine, or Fresh Emergent Wetlands. They may vary from small ponds less than one acre to large areas covering several square miles. Depth can vary from a few inches to hundreds of feet. Typical lacustrine habitats include permanently flooded lakes and reservoirs, and intermittent lakes and ponds (including vernal pools)

so shallow that rooted plants can grow over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not.

Riverine habitats can occur in association with many terrestrial habitats. Riverine habitats are found adjacent to many rivers and streams. Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats. This habitat requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved oxygen will decrease, and the bottom will change from rocky to muddy.

Other Habitat

Barren habitat is defined by the absence of vegetation. Any habitat with less than 2 percent total vegetation cover by herbaceous, desert, or non-wildland species and less than10 percent cover by tree or shrub species is defined this way. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the Planning Area, there are 45.2 acres of barren habitat.

EXISTING PHYSICAL CONDITIONS IN THE STUDY AREA

Vegetation and Wildlife Descriptions

The following vegetation and wildlife descriptions follow the California Department of Fish and Wildlife's (DFW's) Wildlife Habitat Relationships classification system (Mayer and Laudenslayer 1988) and that of California Vegetation (Holland and Keil 1989). A habitat includes those ecological conditions that support an organism or biological population.

Communities are naturally occurring assemblages of plants that are relatively consistent in physiognomy and species composition from one location to another. Plant communities and their associated wildlife indicate the presence of a suitable habitat. Ruderal ("weedy"), landscaped, and agricultural plant assemblages are referred to as vegetation or cover types because they are human-induced and not naturally occurring.

Eight (8) habitat types have been identified within Modesto's urban area as supporting various plant communities and wildlife. These include four natural habitats: valley foothill riparian, riverine, wetland, and grassland. The four human-modified habitats are pasture, cropland, orchard-vineyard, and urban habitats. Special-status species with potential to occur in these habitats within the Modesto planning area are addressed in Table E-1 of Appendix E.

VALLEY FOOTHILL RIPARIAN

Valley foothill riparian habitat is composed of the vegetation and wildlife areas next to rivers and streams. Riparian habitat in the Modesto area occurs along the Stanislaus and Tuolumne Rivers and along Dry Creek. Riparian areas are helpful in maintaining the stability of stream banks and the configuration of streams. Vegetation in this habitat is also beneficial to the quality of stream water since polluting nutrients are absorbed before reaching open water. Common streamside plant species include: willow, cottonwood, box elder, buttonbush, Oregon ash, wild grape, and California blackberry.

Stands of elderberry shrubs may be found in riparian vegetation along the Stanislaus and Tuolumne Rivers. Elderberry shrubs are the host plant for the federally listed (threatened) valley elderberry longhorn beetle (VELB). The understory includes annual grasses and forbs, and old stands are frequently overrun by wild grape. This habitat is a significant natural area known to occur within the general vicinity of Modesto and should be surveyed for when areas next to the riparian corridor are proposed for development.

The importance of riparian areas to wildlife is related primarily to vegetation structure and the presence of water. Riparian habitat provides abundant food, water, escape, nesting, and thermal cover for mammals, birds, amphibians, reptiles, and invertebrates, while also serving as migration and dispersal corridors for these animals (Stanley et al. 1991; Mayer and Laudenslayer 1988). Many invertebrates that are important food sources for other animals live entirely in or near riparian habitats. Amphibians are dependent on these habitats for breeding. Riparian areas provide important refuge areas and winter habitat for migratory bird species in the Pacific Flyway.

Because riparian areas are of significant inherent value for wildlife, the CDFW and the USFWS believe it is necessary to provide mitigation for any net loss of riparian habitats resulting from development of habitat alteration. Figures 3.4-2a through 3.4-2d, Riparian and Vernal Pool Locations, delineates at a general plan scale the approximate extent of the riparian corridors containing the Valley Foothill riparian and riverine habitats within the planning area. The riparian corridor boundaries, which should be considered preliminary and subject to refinement as site-specific information becomes available, were determined based on the mapped 100-year floodplain as adjusted by the presence of developed land uses and a review of aerial photographs. Mapped riparian areas include some existing agricultural uses such as orchards, but were included as riparian where within existing levees or the top of bank.

RIVERINE

Riverine habitat occurs in an association with many terrestrial habitats. Riparian habitats are found next to many rivers and streams. In the planning area, the open water zones of the Stanislaus and Tuolumne Rivers provide resting and escape cover for many species of waterfowl. Terns, bald eagles, osprey, and American peregrine falcon hunt in open water. Many species of insectivorous birds such as swallows, swifts, and flycatchers hunt their prey over water. Many species of bats also hunt insects over riverine habitats. Predators such as river otters and mink hunt in riverine habitat for

fish, invertebrates, amphibians, and birds. Muskrat and beaver are common mammals found in this habitat.

King or Chinook salmon (fall/late fall-run ESU) spawn between October and January east of the City of Riverbank, in the Stanislaus River. Historically, they also occurred in the Tuolumne River and Dry Creek (Brown and Moyle 1993). Another special- status species that potentially occurs in the Tuolumne River is the Sacramento splittail, a large endemic minnow. Splittails require slow-moving sections of rivers containing submerged aquatic or terrestrial vegetation for major portions of their life cycle (Moyle et al. 1989). Hardhead is a California Species of Special Concern which is known to occur in the Stanislaus and Tuolumne Rivers. Hardheads occur in clear and deep pools in slow-moving sections of the river systems. Riverine habitat provides unique cover, sources of food, breeding, and spawning, yet cannot be separated from riparian habitat when evaluating for potential impacts.

FRESH EMERGENT WETLAND AND VERNAL POOL

Fresh emergent wetlands are transitional areas between terrestrial and aquatic systems that include marshes, seasonally flooded grasslands, and the fringes of ponds. Mayer and Laudenslayer (1988) refer to this habitat as fresh emergent wetlands that occur in association with terrestrial habitats or aquatic habitats, such as riverine. These sensitive areas occur next to streams, lakes, and because of blockage of normal water run-off channels. Wetlands provide a diverse array of plant and wildlife communities and are among the most productive wildlife habitats in California. Wetlands are important to amphibians, herons and egrets, waterfowl, and shorebirds.

Vernal pool is a sensitive wetland community that occurs in pastures, grasslands, and woodlands in Stanislaus County. Vernal pools are shallow, ephemeral bodies of water that occupy depressions in grasslands, pastures, and woodlands (Holland and Kiel 1989). These areas fill with water during winter rains and subsequently dry up during the spring and early summer. Vernal pool communities support highly specialized plant and wildlife communities, some of which only occur within vernal pools, and many are endemic to California. Many of these species have adapted two morphologies, one to survive while the pools are flooded and another to reproduce once the pools have dried. Examples of special-status species that are associated with vernal pools in the region include but are not limited to:

- vernal pool fairy shrimp,
- vernal pool tadpole shrimp,
- alkali milk-vetch,
- crownscale,
- vernal pool saltscale,
- succulent owl's clover,
- Hoover's spurge,
- dwarf downingia,
- delta button-celery,
- spiny-sepaled button-celery,

- legenere,
- Merced monardella,
- little mousetail,
- Colusa grass,
- California adder's-tongue,
- San Joaquin Valley Orcutt grass,
- hairy Orcutt grass,
- delta woolly-marbles, and
- Greene's tuctoria.

Much of the area formerly occupied by vernal pools has been converted to agricultural uses. Urbanization has also destroyed many vernal pools and threatens still more (Holland and Kiel 1989). Potential habitat for vernal pools exists east (particularly east of Santa Fe Avenue) and north of Modesto within the Planned Urbanizing Area (Figures 3.4-2a). The Northern Hardpan Vernal Pool vegetation community (G3, S3.1) has been historically documented within the vicinity of the General Plan study area and sphere of influence. In addition, vernal pool fairy shrimp have been documented in the ditches along the railroad tracks near the Amtrak station site between Held Drive and Santa Fe Avenue (Environmental Sciences Associates 1996).

GRASSLAND

Mayer and Laudenslayer (1988) divide grassland habitat into either perennial or annual grasslands. Grassland habitat is made up of a mixture of annual and perennial grasses, herbs, and wildflowers. For the most part, however, grassland plant communities within the General Plan boundary are dominated by non-native annual grasses with small pockets of native perennial bunch grasses. Native bunch grass communities may not be classified as threatened or endangered but often are considered a sensitive biological community under the CEQA. Native grassland populations have declined greatly in the San Joaquin Valley with the loss of the large herds of grazing animals such as tule elk and pronghorn, species with which they co-evolved (Edwards 1991) and the conversion of native grasslands to agriculture and development. Grasslands can also occur on alkaline soils and support annual grasses and alkaline-tolerant species such as saltbush, alkali weed, saltgrass, gum plant, and poverty weed.

Existing grasslands within the Modesto General Plan study area are associated with native oak savannahs. These savannah/grasslands provide food and cover for shrews, rodents, rabbits, deer, smaller migratory and resident birds, and reptiles. In turn, many of these wildlife species are food sources for snakes, raptors, and carnivores common to grassland communities. One of the primary impacts on grassland communities has been the practice of continuous unplanned grazing that results in the overgrazing of plants and ultimately their decline and loss.

PASTURE

Pastures often occur in association with agricultural habitats and may be found next to riparian and grassland habitats. The vegetation is a mix of perennial grasses and legumes that provide 100 percent canopy closure. The vegetation mix varies according to management practices such as seed

mixture, fertilization, soil type, irrigation, weed control, the type of livestock, stocking rates, and grazing duration. Pastures are used by a variety of wildlife. Ground-nesting birds such as waterfowl and pheasants' nest in pastures if adequate vegetation is present at the onset of the nesting season. Some of the highest pheasant counts have been recorded in irrigated pastures in Stanislaus County (Mayer and Laudenslayer 1988). Flood irrigation of pastures provides feeding and roosting sites for many wetland-associated birds such as shorebirds, wading birds, waterfowl, and raptors. Deer may graze pastures provided there is adequate cover next to the pastures. Special-status species associated with pasture include greater sandhill cranes, which use irrigated pastures for foraging, and burrowing owls, which are known to nest in pasturelands where adequate California ground squirrel burrows exist. Pastures also provide foraging habitat for golden eagles, Swainson's hawks, and white- tailed kites.

CROPLAND

Croplands occur in association with orchard-vineyard, pasture, grassland, and riparian habitat types. Croplands are characterized by the crop cycles typical of California.

Most crops tend to be annuals and are managed in a rotation system. Croplands have been established on the state's most fertile soils, which historically supported an abundance of wildlife. Croplands have greatly reduced the wildlife richness and diversity in the state. However, many species of rodents and birds have adapted to agriculture and are considered pests to crops. Wildlife such as waterfowl and sandhill cranes that use waste grains after harvest are not considered pests or "problem wildlife." Bats, which prey primarily on insects, and raptors such as the special-status species Swainson's hawk, white-tailed kite, and short-eared owl that feed on rodents are beneficial to croplands. Crop patterns and cultural practices that include clean farming, double cropping, and chemical control can be detrimental to wildlife (Robinson 1990; Mayer and Laudenslayer 1988).

ORCHARD-VINEYARD

Orchard-vineyard habitats are generally associated with other agricultural types previously mentioned. They are frequently associated with riparian areas and grasslands. These areas have been planted on deep fertile soils that once supported diverse natural habitats. Like croplands, orchards and vineyards support some species of birds and mammals that have adapted to agriculture. Deer and rabbits may browse on the trees or vines, and squirrels and numerous birds feed on fruit and nuts. Common pests that feed on almonds and walnuts are the common flicker, scrub jay, American crow, Brewer's blackbird, house finch, and the California ground squirrel. Mourning doves use orchards for cover and nesting sites. Evergreen orchards provide refuge for wildlife during inclement weather or act as shade during scorching San Joaquin Valley summer days. Water used for irrigation can also be utilized by various wildlife species. In western Stanislaus County, the San Joaquin kit fox, a federally listed species, is known to use orchards for den sites.

URBAN AREA

Urban areas include a variety of plants that are relatively static because of maintenance. Extensive planting of exotic and non-native vegetation in urban areas can reduce the diversity of wildlife

species within a region. Three urban categories relevant to wildlife are distinguished by Mayer and Laudenslayer (1988): downtown, urban residential, and suburbia. The downtown is usually at the center followed by concentric zones of urban residential and suburbs. There tends to be a progression outward of decreasing development and increasing vegetative cover. In the downtown area, biodiversity tends to be low, with house mice, rats, rock doves, house sparrows, and starlings composing most of the species. The urban residential zone is characterized by a more varied mosaic of vegetation, providing habitat for jays, mockingbirds, house finch, sparrows, hummingbirds, raccoons, opossum, and striped skunks. Suburban areas with mature vegetation closely approximate a somewhat natural environment and a proportionately greater number of native species occur. Various species of small passerine birds occur in this area along with California quail, deer, rabbits, striped skunk, coyote, gopher snake, and western fence lizard. Burrowing owls, a special-status species, may utilize open areas that have suitable burrows in the Modesto urban area.

SPECIAL-STATUS SPECIES

The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the Project Area:

- California Natural Diversity Database (CNDDB) records (CDFW 2015);
- USFWS quadrangle species lists (USFWS 2015);
- CNPS Inventory records (CNPS 2015);
- CDFG publication "California Amphibians and Reptile Species of Concern" (Thomson et. al. 2016);
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003);
- Fairy Shrimps of California's Puddles, Pools and Playas (Eriksen and Belk 1999);
- University of California at Davis Information Center for the Environment Distribution Maps for Fishes in California (2015);
- National Marine Fisheries Service Distribution Maps for California Salmonid Species (2013);
- Tuolumne Aquatic Resources Relational Inventory (CDFG 2005).

Federal special-status species include those that are legally protected under the ESA or other regulations and species that are considered sufficiently rare by the scientific community to qualify for listing. Special-status species include the following categories.

1. Species listed or proposed for listing as threatened or endangered under ESA (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the FR [proposed species]).
2. Species that are candidates for possible future listing as threatened or endangered under ESA (71 FR 53755, September 12, 2006).

The federal Migratory Bird Treaty Act protects native migratory birds and their nests. The Bald and Golden Eagle Protection Act protects bald eagles and golden eagles, except under certain specified conditions, from the taking, possession, transportation, export or import, barter, or offer to sell, purchase, or barter a bald or golden eagle, alive or dead, of any part, nest, or eagle egg.

As described above, several special-status species known to Stanislaus County occur in habitat types identified in the planning area. The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within one and approximately 15 miles (12 quads) of Modesto. Figure 3.4-3 illustrates the special status species located within approximately 15 miles of the Planning Area. As shown in Figure 3.4-3, the 12 quads consist of Manteca, Avena, Escalon, Oakdale, Ripon, Salida, Riverbank, Waterford, Westley, Brush Lake, Ceres, Denair, Patterson, Crows Landing, Hatch, and Turlock.

Special Status Plants

The search revealed documented occurrences of 22 special status plant species within approximately 15 miles (12 quads) of the Modesto Planning Area. Table 3.4-2 provides a list of special-status plants within one and 15 miles of the Planning Area, along with their current protective status, geographic distribution, habitat, and blooming period.

Special Status Animals

The search revealed documented occurrences of 41 special status animal species within approximately 15 miles (12 quads) of the Planning Area, including nine invertebrate species, four fish species, three amphibian species, three reptile species, 14 bird species, and eight mammals. Table 3.4-3 provides a list of special-status animals within one and 15 miles of the Planning Area, along with their current protective status, geographic distribution, and habitat.

TABLE 3.4-2: SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE CITY OF MODESTO GENERAL PLAN AREA

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE/ CNPS*	*DISTRIBUTION*	*PREFERRED HABITATS*	*BLOOMING PERIOD*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
Alkali milk-vetch *Astragalus tener* var. *tener*	–/–/1B.2	Merced, Solano, and Yolo counties. Historically more widespread.	Grassy flats and vernal pool margins, on alkali soils, below 200 feet.	March-June	Moderate
Alkali-sink goldfields *Lasthenia chrysantha*	–/–/1B.1	Solano, Sacramento, San Joaquin, Stanislaus, Merced, San Benito, Madera, Fresno, Kings, Tulare and Kern and counties.	Vernal pools. Alkaline. Between 0-200 m.	February-June	Low
California alkali grass *Puccinellia simplex*	–/–/1B.2	Glen, Colusa, Butte, Sutter, Yolo, Napa, Solano, Contra Costa, San Joaquin, Alameda, Santa Clara, Stanislaus, Merced, Madera, Fresno, Monterey, Kings, Tulare Kern, Los Angeles, and San Bernardino and counties.	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernally mesic. Sinks, flats, and lake margins. Between 1-915 m.	March-May	Moderate
Lemmon's jewelflower *Caulanthus lemmonii*	–/–/1B.2	Alameda, San Joaquin, Stanislaus, Merced, Fresno, San Benito, Monterey, Kings, San Luis Obispo, Kern, Santa Barbara, and Ventura counties.	Pinyon and juniper woodland, valley and foothill grassland. Between 75-1,585 m.	March-May	Low
Shining navarretia *Navarretia nigelliformis ssp. radians*	–/–/1B.2	Butte, Colusa, Contra Costa, San Joaquin, Alameda, Stanislaus, Merced, Mariposa, Madera, San Benito, Monterey, Fresno, Tulare, San Luis Obispo counties	Cismontane woodland, valley and foothill grassland, vernal pools. Apparently in grassland, and not necessarily in vernal pools. Between 60-975 m.	April-July	Low
Spiny-sepaled button-celery *Eryngium spinosepalum*	–/–/1B.2	Contra Costa, San Joaquin, Calaveras, Stanislaus, Merced, Mariposa, Madera, Fresno, Tulare, San Luis Obispo, and Kern counties.	Vernal pools, valley and foothill grassland. Some sites on clay soil of granitic origin; vernal pools, within grassland. Between 15-1,270 m.	April-May	Moderate
Heartscale *Atriplex cordulata*	–/–/1B.2	Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Madera, Merced, San Luis Obispo, Solano, and Stanislaus	Alkali grassland, alkali meadow, and alkali scrub, 0-1,837 feet.	April-October	Moderate

COMMON AND SCIENTIFIC NAME	STATUS: FED/STATE/ CNPS	DISTRIBUTION	PREFERRED HABITATS	BLOOMING PERIOD	POTENTIAL FOR OCCURRENCE IN STUDY AREA
		counties. Western Central Valley and valleys of adjacent foothills.			
Lesser saltscale *Atriplex minuscula*	–/–/1B.1	Alameda, Butte, Fresno, Kern, Madera, Merced, Tulare counties.	Alkali grassland, alkali meadow, alkali scrub, and saltbush scrub, between 50 and 650 feet.	May-October	High
Vernal pool (persistent- fruited) saltscale *Atriplex persistens*	–/–/1B.2	Colusa, Glenn, Madera, Merced, Solano, and Tulare counties.	Dry beds of vernal pools, on alkaline soils, between 33 and 380 feet.	June-October	Moderate
subtle orache *Atriplex subtilis*	–/–/1B.2	Butte, Fresno, Kings, Kern, Madera, Merced, Stanislaus, and Tulare counties.	Alkaline soils, valley and foothill grassland between 130 and 330 feet.	June-October	Moderate
Big tarplant *Blepharizonia plumosa*	–/–/1B.1	Alameda, Contra Costa, San Joaquin, and Stanislaus counties.	Valley and foothill grassland, 100- 1,650 feet.	July-October	Moderate
Lemmon's jewel-flower *Caulanthus coulteri* var. *lemmonii*	–/–/1B.2	Western Central Valley and valleys of adjacent foothills on west side of Central Valley.	Pinyon and juniper woodland, and valley and foothill grassland, between 250 and 4,000 feet.	March-May	Low
Beaked clarkia *Clarkia rostrata*	–/–/1B.3	Merced, Mariposa, and Stanislaus Counties. Central Sierra Nevada Foothills, San Joaquin Valley, Hell Hollow, and Merced River drainage:	Cismontane woodland, Valley and foothill grassland, 200-1,500 feet.	April-May	Moderate
Delta button-celery *Eryngium racemosum*	–/E/1B.1	San Joaquin River delta, floodplains, and adjacent Sierra Nevada foothills: Calaveras, Merced, San Joaquin*, and Stanislaus Counties	Riparian scrub, seasonally inundated depressions along floodplains on clay soils, below 100 feet.	June-October	High
Spiny-sepaled button- celery *Eryngium spinosepalum*	–/–/1B.2	Fresno, Madera, Stanislaus, Tulare, and Tuolumne counties.	Valley and foothill grasslands and vernal pools, between 260 and 2,000 feet.	April-June	Moderate

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE/ CNPS*	*DISTRIBUTION*	*PREFERRED HABITATS*	*BLOOMING PERIOD*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
Diamond-petaled California poppy *Eschscholzia rhombipetala*	–/–/1B.1	Interior foothills of south Coast Ranges from Contra Costa County to Stanislaus County. Carrizo Plain in San Luis Obispo County.	Grassland, chenopod scrub, on clay soils, where grass cover is sparse enough to allow growth of low annuals below 3,200 feet.	March-April	Moderate
Talus fritillary *Fritillaria falcata*	–/–/1B.2	South inner coast ranges. Alameda, Monterey, San Benito, Santa Clara, and Stanislaus counties.	Chaparral, oak woodland, closed- cone coniferous forest, on serpentine talus between 1,000- 5,000 feet.	March-May	None—no serpentine known in the area
Legenere *Legenere limosa*	–/–/1B.1	Primarily located in the lower Sacramento Valley, also from north Coast Ranges, northern San Joaquin Valley, and Santa Cruz Mountains.	Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and river banks, below 500 feet.	May-June	Moderate
Merced monardella *Monardella leucocephala*	–/–/1A	Presumed extirpated, last seen in 1941, historically known from northern San Joaquin Valley.	Moist, sub-alkaline soils associated with low elevation grassland, in sandy depressions and riverbeds valley and foothill grassland, 115-330 feet.	May-August	Low
Colusa grass *Neostapfia colusana*	T/E/1B.1	Colusa, Glenn, Merced, Solano, Stanislaus, and Yolo counties.	Vernal pools on adobe soils.	May-August	Moderate
San Joaquin Valley orcutt grass *Orcuttia inaequalis*	T/E/1B.1	Fresno, Madera, Merced, Stanislaus, and Tulare counties.	Vernal pools from 100 to 2,500 feet.	April–September	Moderate
Greene's tuctoria *Tuctoria greenei*	E/R/1B.1	Butte, Fresno, Glenn, Madera, Merced, Shasta, San Joaquin, Stanislaus, Tehama, and Tulare counties.	Vernal pools between 100 and 3,500 feet.	May–September	Moderate

COMMON AND SCIENTIFIC NAME	STATUS: FED/STATE/ CNPS	DISTRIBUTION	PREFERRED HABITATS	BLOOMING PERIOD	POTENTIAL FOR OCCURRENCE IN STUDY AREA

SOURCES: CNDDB 2024; CNPS 2024.

NOTES:

* = EXTIRPATED FROM THIS COUNTY.

CNDDB = CALIFORNIA NATURAL DIVERSITY DATABASE.

CNPS = CALIFORNIA NATIVE PLANT SOCIETY.

STATUS EXPLANATIONS:

FEDERAL

E = LISTED AS ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

T = LISTED AS THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

– = NO STATUS DEFINITION.

STATE

E = LISTED AS ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.

R = LISTED AS RARE UNDER THE CALIFORNIA NATIVE PLANT PROTECTION ACT AND CALIFORNIA ENDANGERED SPECIES ACT.

– = NO STATUS DEFINITION.

CALIFORNIA NATIVE PLANT SOCIETY (CNPS)

1A = RANK 1A SPECIES: PRESUMED EXTIRPATED IN CALIFORNIA AND EITHER RARE OR EXTINCT ELSEWHERE

1B = RANK 1B SPECIES: RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE

2A = RANK 2A SPECIES: PRESUMED EXTIRPATED IN CALIFORNIA, BUT COMMON ELSEWHERE

2B = RANK 2B SPECIES: RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE

3 = RANK 3 SPECIES: PLANTS ABOUT WHICH MORE INFORMATION IS NEEDED—A REVIEW LIST

4 = RANK 4 SPECIES: PLANTS OF LIMITED DISTRIBUTION—A WATCH LIST CNPS CODE EXTENSIONS:

.1= SERIOUSLY THREATENED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED / HIGH DEGREE AND IMMEDIACY OF THREAT

.2= FAIRLY THREATENED IN CALIFORNIA (20- 80% OF OCCURRENCES THREATENED)

.3= NOT VERY THREATENED IN CALIFORNIA (<20% OF OCCURRENCES THREATENED OR NOT CURRENT THREATS KNOWN)

DEFINITIONS OF LEVELS OF OCCURRENCE LIKELIHOOD:

HIGH: KNOWN OCCURRENCE OF PLANT WITHIN 5 MILES OF THE PROJECT FROM NATURAL DIVERSITY DATA BASE, CALIFORNIA NATIVE PLANT SOCIETY INVENTORY, OR OTHER DOCUMENTS; AND SUITABLE HABITAT AND MICROHABITAT CONDITIONS PRESENT.

MODERATE: KNOWN OCCURRENCE OF PLANT IN STANISLAUS COUNTY, BUT MORE THAN 5 MILES FROM THE PROJECT, FROM NATURAL DIVERSITY DATA BASE, CALIFORNIA NATIVE PLANT SOCIETY INVENTORY, OR OTHER DOCUMENTS; OR SUITABLE HABITAT CONDITIONS PRESENT, BUT SUITABLE MICROHABITAT CONDITIONS UNLIKELY TO BE PRESENT OR OF POOR QUALITY.

LOW: PLANT NOT KNOWN TO OCCUR IN THE REGION FROM THE NATURAL DIVERSITY DATA BASE, CALIFORNIA NATIVE PLANT SOCIETY INVENTORY, OR OTHER DOCUMENTS IN THE VICINITY OF THE PROJECT, OR PLANT IS KNOWN ONLY HISTORICALLY FROM THE REGION; AND HABITAT CONDITIONS OF POOR QUALITY.

NONE: PLANT NOT KNOWN TO OCCUR IN THE REGION FROM THE NATURAL DIVERSITY DATA BASE, CALIFORNIA NATIVE PLANT SOCIETY INVENTORY, OR OTHER DOCUMENTS IN THE VICINITY OF THE PROJECT; AND SUITABLE HABITAT NOT PRESENT IN ANY CONDITION.

TABLE 3.4-3: SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE CITY OF MODESTO GENERAL PLAN AREA

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
INVERTEBRATES				
American bumble bee *Bombus pensylvanicus*	--/--	Southern Arizona, New Mexico, and California	Long-tongued; forages on a wide variety of flowers including vetches (Vicia), clovers (Trifolium), thistles (Cirsium), sunflowers (Helianthus), etc. Nests above ground under long grass or underground. Queens overwinter in rotten wood or underground.	Moderate. May forage in the General Plan Area.
Crotch's bumble bee *Bombus crotchii*	--/CE	Occur in the United States and Baja California in Mexico. Occur primarily in California, Western Desert, and adjacent foothills. Distributed throughout most of southwestern North America.	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Moderate. May forage in the General Plan Area.
Conservancy fairy shrimp *Branchinecta conservatio*	E/SSI	Disjunct occurrences in Solano, Stanislaus, Merced, Tehama, Ventura, Butte, and Glenn Counties	Large, turbid vernal pools in annual grasslands. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	None. Required large pools are not known to occur within the General Plan Area. Species is known to occur in pools located on Mapes Ranch, west of the General Plan Area.
California linderiella *Linderiella occidentalis*	--/--	It has been documented on most land forms, geologic formations and soil types supporting vernal pools in California, at altitudes as high as 1,150 meters (3,770 ft) above sea level. Most common in the Central Valley.	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	Low. Suitable aquatic habitat to support this species is extremely limited within the General Plan Area.
Moestan blister beetle *Lytta moesta*	--/SSI	Historical distribution Fresno, Kern, Madera, Santa Cruz, Stanislaus, and Tulare counties.	Vernal pool grasslands within the Central Valley. Thought to depend on dried vernal pool habitat and solitary vernal pool bees as hosts.	None. Documented occurrences in the vicinity of the General Plan Area are considered extirpated. In addition, suitable vernal pool habitat to support this species is extremely limited within the General Plan Area.

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/SSI	Riparian and wetland habitats below 3,000 feet throughout the Central Valley	Riparian and oak savanna habitats with blue elderberry shrubs; elderberries are the host plant	Moderate. May occur in riparian habitat that supports elderberry shrubs.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/SSI	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools	High. Known to occur within the General Plan Area.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/SSI	Shasta County south to Merced County	Vernal pools and ephemeral stock ponds with clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	High. Known to occur within the General Plan Area.
Western bumble bee *Bombus occidentalis*	--/CE	Occur in the western United States and western Canada.	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Moderate. May forage in the General Plan Area.
FISH				
Steelhead, Central Valley DPS *Oncorhynchus mykiss irideus*	T/--	The Central Valley ESU includes all naturally spawned populations (and their progeny) in the Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo bays and their tributaries.	Preferred spawning habitat for steelhead is in cool to cold perennial streams with high dissolved oxygen levels and fast flowing water. Abundant riffle areas for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.	High. Known to occur in the Stanislaus and Tuolumne Rivers below the Goodwin and La Grange Dams. No spawning habitat present within the General Plan Area, but the river sections present are a migration corridor.
Green sturgeon - southern DPS	T/SSC	Spawns in the Sacramento, Feather and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning.	Spawning site fidelity. Non-spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles.	High. Known to occur in the Stanislaus River.

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
Acipenser medirostris pop. 1			Spawning occurs primarily in cool (11-15 C) sections of mainstem rivers in deep pools (8-9 meters) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	
Sacramento splittail *Pogonichthys macrolepidotus*	--/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes.	Occurs in slow-moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young. Splittail are primarily freshwater fish, but are tolerant of moderate salinity and can live in water where salinity levels reach of 10-18 parts per thousand.	Low. Known in the San Joaquin River, but sampling in the Stanislaus and Tuolumne Rivers has not documented this species. Spawning and foraging habitat typical of this species is not present within the General Plan Area; however, this species may disperse through the General Plan Area.
Hardhead *Mylopharodon conocephalus*	--/SSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage.	Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic Centrarchids predominate.	High. Known to occur in the Stanislaus and Tuolumne Rivers.
AMPHIBIANS				
California tiger salamander *Ambystoma californiense*	T/T	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, from Yolo County south to Tulare County. Also in the coastal valleys and foothills, from Sonoma County south to Santa Barbara County; Sonoma and Santa Barbara populations are listed as Federal Endangered.	Inhabits grassland, oak woodland, ruderal, and seasonal pool habitats. Seasonal ponds and vernal pools are crucial to breeding. Adults utilize mammal burrows as estivation habitat.	None. Considered extirpated in the vicinity of the General Plan Area, and extremely limited suitable habitat is present within the General Plan Area.
Foothill yellow-legged frog *Rana boylii*	--/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-	None. No suitable habitat occurs within the General Plan Area.

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
			sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	
Western spadefoot *Spea hammondii*	--/SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Shallow temporary pools formed by winter rains are essential for breeding and egg-laying.	Low. May occur in grassland areas with vernal pools and seasonal wetlands.
REPTILES				
Northern California legless lizard *Anniella pulchra*	--/SSC	California legless lizards are found in California and Mexico. They are found from western central California (San Joaquin and the coastal regions), through northwestern Baja California, and as far south as Colonia Guerrero, Mexico.	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Moderate. May occur in areas with suitable habitat within General Plan Area.
San Joaquin coachwhip *Masticophis flagellum ruddocki*	--/SSC	The San Joaquin Coachwhip has been found in Alameda, Contra Costa, Kern, Lake, Merced, San Benito, San Joaquin, Stanislaus, and Tulare counties, but may be found in appropriate habitat throughout the San Joaquin Valley, especially along the western edge.	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.	Moderate. May occur in areas with suitable habitat within General Plan Area.
(Northern) Western pond turtle *Actinemys [Emys] marmorata*	--/SSC	Occurs along the northern coast of California east to the Sierra Nevada and south through the Delta and Central Valley.	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	Moderate. May occur in areas with suitable aquatic habitat located such as riparian areas within General Plan Area.

COMMON AND SCIENTIFIC NAME	STATUS: FED/STATE	GEOGRAPHIC DISTRIBUTION	HABITATS REQUIREMENTS	POTENTIAL FOR OCCURRENCE IN STUDY AREA
BIRDS				
Cackling (=Aleutian Canada) goose *Branta hutchinsii leucopareia*	--/WL	The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds.	Winters on lakes and inland prairies. Forages on natural pasture or that cultivated to grain; loafs on lakes, reservoirs, ponds.	High. May nest in suitable open habitats within the General Plan Area.
California horned lark *Eremophila alpestris actia*	--/WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	High. May nest in suitable open habitats within the General Plan Area.
Great blue heron *Ardea herodias*	--/--	Found throughout much of North America and into Central and South America. Common throughout California.	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites near foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	High. May nest or forage in suitable habitats within the General Plan Area.
Loggerhead shrike *Lanius ludovicianus*	--/SSC	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches and fairly dense shrubs and brush for nesting.	High. May nest in suitable open habitats with shrubs within the General Plan Area.
Least Bell's vireo *Vireo bellii pusillus*	E/E	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms.	Found below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	High. May nest or forage in suitable habitats within the General Plan Area.
Merlin *Falco columbarius*	--/WL	Most of the prairie Merlins move into the southern and central U.S. and northern Mexico, although some in urban areas remain there year-round.	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms, and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Moderate. May nest or forage in suitable habitats within the General Plan Area.
Prairie falcon *Falco mexicanus*	--/WL	The breeding range of the prairie falcon extends southward from central British Columbia through much of the western	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs.	Moderate. May nest or forage in suitable habitats within the General Plan Area.

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
		United States and reaches as far south as northern Mexico. Prairie falcons winter throughout their breeding range, as far south as central Mexico and as far east as the Mississippi River.	Forages far afield, even to marshlands and ocean shores.	
Snowy egret *Egretta thula*	--/--	Found mostly throughout North, Central, and South America. Breeds in coastal and inland wetlands. Their range has been limited over time due to habitat destruction and hunting. A migratory species that relocates from the United States and Canada to Mexico, Central America, South America, and the West Indies.	Prefer shallow water inlets for feeding such as salt-marsh pools, tidal channels, and bays. Mostly along coastal areas and islands. During winter time they migrate and roost in the mangroves of the Caribbean.	Moderate. May nest or forage in suitable habitats within the General Plan Area.
Song sparrow- "Modesto" population *Melospiza melodia*	--/SSC	Restricted to the Sacramento and extreme northern San Joaquin Valleys from Colusa County south to northern Stanislaus County.	Associated with woody riparian habitat and freshwater marshes.	None. Though collected in the General Plan Area in the early 1900's, these may have been vagrants and none have been documented in the vicinity in recent years. General Plan Area outside of known range.
Swainson's hawk *Buteo swainsoni*	--/T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur in Yolo County.	Breeds in stands with few trees in juniper- sage flats, riparian areas, eucalyptus stands, and oak savannah. Requires adjacent suitable foraging areas such as grasslands or grain fields supporting rodent populations.	High. Known to nest within General Plan Area.
Tricolored blackbird *Agelaius tricolor*	--/E*, SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat	Moderate. May nest in areas with suitable marsh habitat.

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
		Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	must be large enough to support 50 pairs with open water habitat in the vicinity.	
Burrowing owl *Athene cunicularia*	--/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Moderate. May nest and winter in suitable grassland and agricultural habitats within the General Plan Area.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	T/E	In California, breeding distribution is now thought to be restricted to isolated sites in the Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys.	Nests in riparian forests along the broad, lower flood-bottoms of larger river systems. Nests in dense vegetation including willow, and often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	None. May be extirpated from General Plan Area, and dense habitat typical of this species is not present within the General Plan Area. Last known occurrence in Stanislaus Co. was in 1973.
Yellow-breasted chat *Icteria virens*	--/SSC	Nests locally in coastal mountains and Sierra Nevada foothills, east of the Cascades in northern California, and along the Colorado River.	Nests in dense riparian habitats dominated by willows, alders, Oregon ash, tall weeds, blackberry, wild grape; forage and nest within 10 feet of ground.	Low. Mainly found in the foothills but may occur in riparian habitat within the General Plan Area.
MAMMALS				
Western mastiff bat *Eumops perotis californicus*	--/SSC	Occurs along the western Sierra primarily at low to mid elevations and widely distributed throughout the southern coast ranges. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	Found in a wide variety of habitats from desert scrub to montane conifer. Roosts and breeds in deep, narrow rock crevices, but may also use crevices in trees, buildings, and tunnels. Roost entrances must have vertical faces and be high enough to drop off to take flight.	None. General Plan Area is outside of known range. No suitable habitat occurs within the General Plan Area.
Townsend's big-eared bat *Corynorhinus townsendii*	--/C,SSC	This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest.	Roost in limestone caves, lava tubes, mines, buildings, etc. Will only roost in the open, hanging from walls and	Low. May roost in riparian areas located within the General Plan Area. Night roost documented at

COMMON AND SCIENTIFIC NAME	*STATUS: FED/STATE*	*GEOGRAPHIC DISTRIBUTION*	*HABITATS REQUIREMENTS*	*POTENTIAL FOR OCCURRENCE IN STUDY AREA*
			ceilings. Roosting sites limiting. Extremely sensitive to disturbance.	southeast edge of General Plan Area.
Western red bat *Lasiurus cinereus*	--/SSC	Occurs throughout much of California from Shasta County to Mexico border, west of the Sierra Nevada and Cascade Range crests.	This species is typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores).	Moderate. May roost in riparian habitats and suitable trees adjacent to open fields within the General Plan Area.
Riparian (San Joaquin Valley) woodrat *Neotoma fuscipes riparia*	E/SSC	Historical distribution along the San Joaquin, Stanislaus, and Tuolumne Rivers. Current distribution limited to Caswell State Park and the confluence area of the San Joaquin and Stanislaus Rivers in San Joaquin, Stanislaus, and Merced Counties.	Riparian habitats with multi-storied riparian habitat including dense shrub cover, willow thickets, and an oak overstory. Need areas with mix of brush and trees, and suitable nesting sites in trees, snags, or logs.	None. Known to occur in riparian habitat along the Stanislaus River west of the General Plan Area. However, riparian habitat within the General Plan Area is not typical of occupied habitat, and there are large spaces of unsuitable habitat between occupied habitat and the General Plan Area.
Riparian brush rabbit *Sylvilagus bachmani riparius*	E/E	Limited to San Joaquin County at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-way lands	Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees including willows, wild rose, and blackberry.	None. Known to occur in riparian habitat along the Stanislaus River west of the General Plan Area. However, riparian habitat within the General Plan Area is not typical of occupied habitat, and there are large spaces of unsuitable habitat between occupied habitat and the General Plan Area.

COMMON AND SCIENTIFIC NAME	STATUS: FED/STATE	GEOGRAPHIC DISTRIBUTION	HABITATS REQUIREMENTS	POTENTIAL FOR OCCURRENCE IN STUDY AREA
Hoary bat *Lasiurus cinereus*	--/--	Occur in all 50 states. Rare in the eastern United States and northern Rockies. Found mainly in the Pacific Northwest and California, Arizona, and New Mexico.	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Moderate. May roost in suitable trees adjacent to open fields near water within the General Plan Area.
San Joaquin kit fox *Vulpes macrotis mutica*	E/T	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; from Kern County north to Contra Costa County. Restricted to the western foothills of the San Joaquin Valley in the northern portion of the range and records become sparse in this area.	Annual grasslands or grassy open stages with scattered shrubby vegetation including saltbush scrub, grassland, oak, savanna, and freshwater scrub. Need loose-textured sandy soils for burrowing, suitable prey base, and short grass habitats.	None. General Plan Area is outside of known range. Records for San Joaquin kit fox in Stanislaus Co. include areas west of I-5 and extreme eastern county near La Grange.
American badger *Taxidea taxus*	--/SSC	Throughout most of California.	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	Low. General Plan Area is out of its current known range, and this species in not found in regularly disturbed agricultural lands.

SOURCE: CNDDB 2024; CNPS 2024.

FEDERAL

E = LISTED AS ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = LISTED AS THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES UNDER THE FEDERAL ENDANGERED SPECIES ACT.
- = NO LISTING

STATE

E = LISTED AS ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = LISTED AS THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.
SSI = SPECIAL-STATUS INVERTEBRATE IN CALIFORNIA.
- = NO LISTING.

** CALIFORNIA FISH AND GAME COMMISSION EMERGENCY LISTING DECEMBER 3, 2014. STATUS OF ENDANGERED DECEMBER 29, 2014 THROUGH JUNE 30, 2015.*

Sensitive Natural Communities

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDB search revealed six sensitive natural communities within 15 miles of the Modesto Planning Area. This includes Coastal and Valley Freshwater Marsh, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley Oak Riparian Forest, Northern Hardpan Vernal Pool, and Elderberry Savanna.

All six of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them "highest inventory priorities" for future conservation. Of these sensitive natural communities documented within 15 miles of Modesto, none are located within one mile of the Modesto Planning Area.

3.4.2 REGULATORY SETTING

There are several regulatory agencies whose responsibility includes the oversight of the natural resources of the State and nation including the CDFW, the USFWS, the USACE, and the National Marine Fisheries Service (NMFS). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the Federal, State, and local regulations that are applicable to implementing the General Plan.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act, passed in 1973, 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 a "take" unless a take permit is issued by the United States Fish and Wildlife Service. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). 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

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews Federal agency actions that may affect these species.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §323.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows [33 C.F.R. §328.3(a)]. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the State.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

> *It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and*

Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §1900-1913 California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the State. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is 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. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code § 21000 - California Environmental Quality Act

CEQA identifies that a species that is not listed on the Federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

Public Resources Code § 21083.4 – Oak Woodland Conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a county to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect to oak woodlands, the county must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include: conservation using conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose

of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the county.

California Oak Woodland Conservation Act

The California Legislature passed Assembly Bill 242, known as the California Oak Woodland Conservation Act, in 2001 because of widespread changes in land use patterns across the landscape that were fragmenting oak woodland character over extensive areas. The Act created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. The legislation provides funding and incentives to ensure the future viability of California's oak woodland resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. The Act acknowledged that the conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the State.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and Federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), adopted by the CVRWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the San Joaquin River include groundwater recharge and fresh water replenishment.

LOCAL

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as VR-*X*, where *X* is the discrete number).

City of Modesto Urban Area General Plan

SWPH-1: For proposed development consistent with the adopted Urban Area General Plan on lands within the Baseline Developed Area and Downtown, exclusive of lands within the Dry Creek and Tuolumne River Comprehensive Planning Districts, an assessment of whether any potential habitat for special-status species is present within proposed development areas shall be made. No further biological study is warranted unless habitat is present or if specific information concerning the known or potential presence of significant biological resources is identified in future updates of the California Natural Diversity Database, or through formal or informal input received from resource agencies or other qualified sources (UAGP Policy VII-E.2[a]).

SWPH-2: For all lands within the Planned Urbanizing Area, site-specific surveys shall be conducted by a qualified biologist to determine whether any sensitive natural communities or species are present within the proposed development area. These studies shall particularly focus on proposed development within any lands included within a potential biological resource study area as delineated on Figure V-7-1 in the Final Program Environmental Impact Report (Riparian Corridor Diagram). Prior to considering development applications, the City shall coordinate with the USFWS and CDFW regarding listed species and potential for impacts. The City shall employ the measures recommended by the USFWS and/or CDFW to avoid an incidental take.

Conduct surveys at the appropriate season to best determine the likelihood of occurrence and should employ accepted methodologies as determined by CDFW and the USFWS. The results of such surveys should be recorded onto the City's existing biological resources map for future planning purposes. (UAGP Policy VII-E.3[a])

SWPH-3: Avoid and preserve all areas occupied or potentially occupied by special-status species, where feasible. Protect areas that can be avoided by fencing, signage, or establishment of buffer zones appropriate to the species and/or habitat involved. Design fencing to allow passage of small mammals and avoid impacts to wildlife movement or dispersal.

Generally, a minimum 100-foot buffer of undeveloped land from identified sensitive resources would be necessary. Improve this buffer area through sustainable habitat restoration. Require protected habitat to be managed to contribute to the long-term conservation of the species and ecosystems on which they depend.

Where it is determined that state and/or federally listed species are present, consult with the CDFW and/or USFWS in accordance with the California and/or federal Endangered Species Acts to determine mitigation measures to avoid and minimize impacts to those species. If other special-status species are determined to be present and cannot be avoided, implement species-specific mitigation measures to minimize impacts to those species through informal consultation with CDFW and/or USFWS. Incorporate the mitigation measures and other recommendations of these agencies into the development plan. (UAGP Policy VII-E.3[b])

SWPH-4: Additional measures to protect sensitive habitats may be implemented. Potential measures to be implemented may include measures listed in Table 3.4-4.

TABLE 3.4-4: POLICIES FOR SENSITIVE BIOLOGICAL HABITATS

a. Avoid disturbance in wetland areas, including vernal pools and riparian communities along rivers and streams. Avoidance of these areas would include implementing a no-disturbance buffer of at least 100 feet from the high-water mark of channels that have no riparian vegetation and 250 feet from the outermost high-water edge of the marsh wetlands, vernal pools, and swales. Riparian vegetation shall be protected with a 200-foot wide no- disturbance buffer delineated from the high water mark of the surface water body. If complete avoidance is not possible, the disturbance to wetland areas shall be minimized to the maximum extent possible, with restoration of the disturbed area provided. The topsoil within the wetland shall be removed and kept separate from other spoils to be used in restoration. New vegetation should consist of similar native species to those removed. Activities with the potential to impact wetlands shall occur only under permit (either individual or nationwide) from the U.S. Army Corps of Engineers. Prior to development, wetland areas shall be delineated by a qualified biologist in accordance with the delineation standards of the Corps.
b. Where wetlands or other sensitive habitats cannot be avoided, replacement habitat at a nearby off-site location shall be provided in accordance with the requirements of the applicable federal or state agency. The replacement habitat should be substantially equivalent to the nature of the habitat lost and should be provided at a ratio suitable to assure that, at a minimum, there is no net loss of habitat acreage or value. The replacement habitat shall be set aside in perpetuity for habitat use. Typically, the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and California Department of Fish and Wildlife require a minimum of two replacement acres for every one acre of riparian or wetland habitat lost.
c. Confine work in or near streams, wetlands, and vernal pools to the dry season between May 1 and October 15. Minimize road widths at stream or wetland crossings, and construct roads at right angles to reduce adverse impacts to riparian corridors.

d. Preserve existing and mature native trees to the extent feasible, except when such trees are diseased or otherwise constitute a hazard to persons or property. During construction, all activities and storage of equipment should occur outside the drip lines of any trees to be preserved.

e. All areas within identified riparian corridors shall be maintained in a natural state, or limited to recreation and open space uses. Recreation should be limited to passive forms of recreation, with any facilities constructed to be non-intrusive to wildlife or sensitive species.

f. New landscaping within or immediately adjacent to the identified riparian corridors should employ native species ecologically consistent with natural riparian habitats.

g. Within the identified riparian corridors, environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses consistent with these values shall be allowed (e.g., nature education and research, fishing, habitat enhancement and protection).

h. In accordance with the MBTA and CFGC and to avoid disturbance to active bird nests, any tree or shrub removal shall occur during the nonbreeding season for birds (September through January). If construction activities or tree removal must occur during the breeding season (February through August), surveys for active nests shall be conducted by a qualified biologist no more than 30 days prior to the start of construction. A no- disturbance buffer determined by a qualified biologist and dependent upon species and nest location of up to 250 feet shall be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

i. The General Plan Area may contain elderberry shrubs. All projects within the General Plan Area should evaluate the project site conditions for the potential for removal of elderberry shrubs. If elderberry shrubs with one or more stems 1.0 inch or greater in diameter at ground level are present, appropriate mitigation should be discussed and prior to any subsequent project approvals, early consultation with USFWS is recommended. The removal and trimming of elderberry shrubs are regulated by the USFWS.

j. Burrowing owls are known to occur near the General Plan Area in agricultural and grassland habitats and vacant lots within developed habitats. Impacts to burrowing owls and their nest burrows must be avoided to comply with the Federal Migratory Bird Treaty Act (MBTA) and Department of Fish and Game Code Sections 3503, 3503.5, and 3513. Per CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012), if any ground- disturbing activities occur in potential burrowing owl habitat during the nesting (February 1 through August 31) or non-nesting season (September 1 through January 31), implementation of avoidance measures is required. A burrowing owl habitat assessment is recommended for areas containing potentially suitable habitat: agricultural, grassland, and vacant parcels if at least 2.5 acres in size or contiguous with undeveloped habitat of at least 2.5 acres in size. Agricultural habitat determined to be suitable includes pastureland, non-irrigated cropland, and ruderal or fallow fields; orchards, vineyards, and other active croplands with vegetation greater than 15 inches in height are not considered suitable habitat. Vacant or ruderal parcels are considered potentially suitable habitat if ground squirrels, debris piles, and/or pipes are present to provide burrows or burrow surrogates for burrowing owl to occupy.

   If burrowing owl habitat is confirmed present within a maximum of 500 feet of the project site, no visual barriers are present between the project site and the burrowing owl habitat, and no owls were observed to occupy the habitat at the time of the assessment, then one preconstruction site survey (take avoidance survey) shall be conducted no more than 14 days prior to the onset of any ground-disturbing activities. Further, if the preconstruction survey determines that burrowing owls occupy the site and impacts to occupied burrows cannot be avoided, then passive relocation shall be conducted as described below during the non-nesting season or if the burrowing owl(s) are determined to not be actively nesting. Prior

to passive relocation, a burrowing owl exclusion, mitigation, and monitoring plan will be prepared in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012) and submitted to the City for approval before any constructive activities can proceed that may impact the species.

The Staff Report on Burrowing Owl Mitigation (CDFG 2012) recommends that impacts to occupied burrows during the nesting season be avoided by implementation of a no-disturbance buffer zone of a minimum of 250 feet, unless a qualified biologist verifies through noninvasive methods that either: 1) the burrowing owls have not begun egg laying and incubation; or 2) that juveniles from the occupied nest are foraging independently and are capable of independent survival. Failure to implement this buffer zone could cause adult burrowing owls to abandon nests, cause eggs or young to be directly impacted (crushed), and/or result in reproductive failure.

Burrowing owls may be passively relocated if the burrowing owls have been determined not to be actively nesting and the burrowing owl exclusion, mitigation, and monitoring plan has been approved by the City and CDFW.

k. The State-threatened Swainson's hawk is known to nest within the General Plan Area in grassland, riparian, and agricultural habitats. Because of the loss of suitable foraging habitat and existing nesting habitat that may occur during area development, mitigation measures compensating for these potential losses of habitat shall be included. The CDFW considers the removal of known raptor nest trees, even outside of the nesting season, to be a significant impact under CEQA and, in the case of Swainson's hawk, could also result in "take" under the CESA. This is especially true in species such as Swainson's hawk, which exhibit high site fidelity to nest trees and nesting area year after year (CDFG 1994).

To avoid such impacts, surveys for nesting Swainson's hawk shall be conducted for projects within riparian, grassland, and agricultural habitats as mapped by Figures 3.4-2a through 3.4-2d or for projects within 0.25 mile of such habitats (see Figure V-7-2) and containing potential nest trees (trees greater than 20 feet in height). Surveys shall follow the methodology developed by the Swainson's Hawk Technical Advisory Committee (2000) and survey potential nest trees within 0.25 mile of disturbance activities.

If ground disturbance is initiated during the nesting season (March 15 – July 31), two pre-construction surveys shall be conducted with surveys not recommended between April 20 and June 10 because of difficulty in detecting active Swainson's hawk nests during the egg incubation period. The first survey may be conducted up to two months prior to initial activities. The second survey shall occur within 14 days of project initiation.

If an active nest is observed, a no-disturbance buffer zone shall be established in coordination with CDFW. No-disturbance buffers for new and intensive disturbances are typically 0.25 mile surrounding the nest location until the nest has been determined to no longer be active by a qualified biologist; however, the buffer may be reduced in consultation with CDFW and is dependent upon nest location, existing disturbance barriers, and baseline disturbance levels.

- No surveys are required if ground disturbance is initiated outside of the nesting season; however, impacts to known nest trees should be avoided at all times of year. If avoidance of a known nest tree (documented nest site within the previous five years) is not feasible, consultation with the CDFW is warranted prior to taking any action, and a determination of "take" potential under CESA or under Fish and Game Code Sections 3503.5 and 3513 will be made. Project-related "take" (as defined in Section 86 of the Fish and Game Code) of Swainson's hawk must be completely avoided or a State Incidental Take Permit, pursuant to Section 2081 of the Fish and Game Code, would be warranted.

In addition, the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (CDFG 1994) recommends that for projects impacting foraging habitat within one mile of an active nest tree, habitat be protected in perpetuity at a 1:1 ratio for each acre of Swainson's hawk foraging

habitat impacted; for projects greater than one mile but within five miles of an active nest tree, 0.75 acre of habitat should be protected in perpetuity for every acre of foraging habitat impacted (0.75:1); and for projects greater than 5 miles but within ten miles of an active nest tree, 0.5 acre of habitat should be protected in perpetuity for every acre of foraging habitat impacted (0.5:1). Per the Staff Report (CDFG 1994), suitable foraging habitat includes annual grasslands, pasturelands, alfalfa and cereal cropland, fallow fields, and beet, tomato, and other low-growing row or field crops. Vineyards, orchards, and cotton fields are considered unsuitable foraging habitat because of vegetation height and/or density (CDFG 1994). The project sponsor should provide funding of a sufficient long-term endowment for the management of the protected properties.

(Note: This table does not use the standard nomenclature to be consistent with the reference contained in the Urban Area General Plan.)

COMPREHENSIVE PLANNING DISTRICTS IN RIPARIAN CORRIDORS

SWPH-5: All three riparian corridors within the planning area (Dry Creek, Stanislaus River, Tuolumne River) are designated as Comprehensive Planning Districts under the Urban Area General Plan. Development within these areas will be subject to a Comprehensive Plan and a Focused EIR prepared for that plan (UAGP Exhibit III-1). Preparation of a Park Master Plan shall suffice as the Comprehensive Plan for these areas. However, until a Park Master Plan is completed for these areas, the Tuolumne River Regional Park Master Plan shall be the guiding plan for the Dry Creek CPD. The TRRP Master Plan shall suffice as the Comprehensive Plan for Tuolumne River Comprehensive Planning District. The Comprehensive Planning Districts for these three corridors specify that land uses will be limited to "open space" use (i.e., low-impact recreational facilities, public ownership, agriculture, low-density residential uses not exceeding one dwelling per ten acres). Other open space policies specific to the riparian corridors require that riverfront vegetation be consistent with riparian habitat, environmentally sensitive habitat areas be protected against significant disruptions of habitat values, and land uses be limited to those dependent on the riparian resource. (UAGP Policies VII-B.7[j] through [q]) Measures in Table 3.4-4 shall also apply to the Comprehensive Planning Districts for the riparian corridors.

The Dry Creek Comprehensive Planning District intends for its 510 acres to become a linear park (UAGP Exhibit II-5). The 810-acre Stanislaus River Comprehensive Planning District is to become a regional park (UAGP Exhibit II-21).

The Tuolumne River Comprehensive Planning District contains 1,380 acres, including a significant amount of public land owned by a joint-powers authority (JPA) made up of Modesto, Ceres, and Stanislaus County. It is a Regional Park designed to serve the residents of Modesto, Ceres, Stanislaus County, and the greater San Joaquin Valley area (UAGP Exhibit II-24). The JPA has completed and the City has certified a Program EIR for the Tuolumne River Regional Park (TRRP) Master Plan. The TRRP Program EIR contains mitigation measures addressing impacts on sensitive plant and wildlife habitat relating to recreation facility development and conservation activities within the TRRP.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

SIGNIFICANT DIRECT IMPACTS

Impacts within the Baseline Developed Area and Downtown

There is low potential for impacts on sensitive wildlife and plant habitats within the Baseline Developed Area. Other than lands within the designated riparian corridors, most of the land projected for development within the Baseline Developed Area are vacant lands generally characterized by weedy, non-native vegetation and habitats of limited value. Implementation of policy SWPH-11 would address potential impacts in these areas. Potential impacts within these areas, therefore, would be less than significant.

Impacts within the Planned Urbanizing Area

The UAGP envisions urban development over the next 20+ years within approximately 21,625 acres that fall within the Planned Urbanizing Area. Most of this land is in agricultural use, including orchards, pasturelands with vernal pool grasslands, and some scattered urban uses. The projections of approximately 150,000 residents and 120,000 employees to be accommodated in the Planned Urbanizing Area consistent with the UAGP would convert much of this area to urban uses, thereby reducing the acreages of grassland, crops, and pastureland.

Biologically sensitive areas within the Planned Urbanizing Area include land within the riparian corridors, riverine habitat, fresh emergent wetlands, and grasslands east of the Burlington Northern and Santa Fe Railway that may support vernal pools. Development within the Planned Urbanizing Area has potential to affect these sensitive habitats, special- status species that can occur in these habitats, and wildlife and fish movement corridors (Tables E-1 and E-2 in Appendix E). The impact of development in the Planned Urbanizing Area on these habitats would be less than significant with implementation of UAGP policies described above, measures in the TRRP Master Plan and Program EIR, and other regulations that will apply to future development (i.e., the CWA, California Fish and Game Code, the ESA, and CESA).

IMPACTS AND MITIGATION

Impact 3.4-1: The Project would not generate substantial adverse effects, either directly or indirectly through habitat modification on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (Less than Significant)

BASELINE DEVELOPED AREA AND DOWNTOWN AREA

The Baseline Developed Area and Downtown Area are already developed. The impacts of new development in these areas on biological resources would be ***less than significant***, per SWPH-1, above, because no existing habitat for special-status plants and animals would be converted because of said new development. Instead, these areas could result in reuse of already disturbed area.

PLANNED URBANIZING AREA

Through 2040, development under the UAGP could convert habitat for special-status plants and animals.

Approval of the General Plan would not directly approve or entitle any development or infrastructure projects. However, implementation of the General Plan would allow and facilitate future development in Modesto, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors.

Special Status Plant Species

The search revealed documented occurrences of 22 special status plant species within approximately 15 miles (12 quads) of the Modesto Planning Area. Table 3.4-2 provides a list of special-status plants within one and 15 miles of the Planning Area, along with their current protective status, geographic distribution, habitat, and blooming period. Figure 3.4-3 illustrates the special status species located within approximately 15 miles (12 quads) of the Planning Area.

The 22 special-status plant species include Federal and State-listed species that have not been documented in the UAGP boundary or vicinity but are identified as having potential to occur in Stanislaus County. None of these special-status plant species are recorded in the CNDDB as occurring within 1 mile of the UAGP boundary (CDFW 2024).

Subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with special status plant species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special status plant species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation because of impacts to water quality.

Special status plant species receive protection from various Federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of the plant species without a special permit. Adherence to the following policies included in the Urban Area General Plan, and compliance with federal and state regulations, would ensure that any future direct or indirect impacts to candidate, sensitive or special-status species would be reduced to a ***less-than-significant*** level as development is proposed and implemented in the Modesto Planning area pursuant to the General Plan policies. These policies require site-specific surveys for sensitive natural communities or species prior to development (SWPH-2), avoidance and preservation of areas occupied by special-status species where feasible (SWPH-3), and where avoidance is not feasible, installation of fencing, signs and or buffer zones. There are additional requirements for specific protections provided under other policies (SWPH-4 and -5).

Special Status Animal Species

The search revealed documented occurrences of 41 special status animal species within approximately 15 miles (12 quads) of the Planning Area, including nine invertebrate species, four fish species, three amphibian species, three reptile species, 14 bird species, and eight mammals. Table 3.4-3 provides a list of special-status animals within one and 15 miles of the Planning Area, along with their current protective status, geographic distribution, and habitat.

1. Western Spadefoot: The western spadefoot is a California species of special concern. This species prefers areas of open vegetation where the soil is sandy or gravely. Often occurring in washes, floodplains of rivers, playas, and alkali flats, western spadefoot also occur in the foothills and mountains. They breed in quiet streams, stock ponds, vernal pools, and other seasonal/permanent wetlands (Stebbins 2003). Known records for this species occur in western and eastern Stanislaus County (CDFW 2024) and may occur in vernal pool areas in and adjacent to Modesto.

2. Western Pond Turtle: The western pond turtle is a California species of special concern. Western pond turtle is an aquatic turtle that is found in ponds, rivers, streams, and irrigation ditches having a rocky or muddy bottom with a variety of aquatic vegetation. The turtles bask on logs, cattail mats, and mudbanks (Stebbins 2003). Nesting sites are in upland areas and are typically located on unshaded slopes of canals, creeks, or rivers. The distance of the nests is often determined by the availability of suitable nesting habitat adjacent to aquatic habitat (Jennings and Hayes 1994). Riparian, riverine, and fresh emergent wetlands in Stanislaus County are suitable habitat.

3. Blainville's Horned Lizard: The Blainville's horned lizard is designated as a California species of special concern. This species occurs throughout the Central Valley and Coast Range from

Shasta County south to Baja California. Blainville's horned lizards occur in a variety of habitats, including clearings in chamise chaparral and grasslands with loose, friable soils (Jennings and Hayes 1994). Although extremely limited suitable habitat is present within the General Plan Area, this species may be present in undisked lands with sandy soils and abundant ants for forage.

4. Northern Harrier: The northern harrier is a California species of special concern. It is a medium-sized hawk raptor of upland grasslands and fresh- and saltwater marshes. In California, northern harriers are a permanent resident of the northeastern plateau, coastal areas, and Central Valley (MacWhirter and Bildstein 1996). Northern harriers frequent meadows, grasslands, desert sinks, open rangelands, and fresh- and saltwater emergent wetlands; they are seldom found associated with wooded habitats. Harriers feed mostly on voles and other small mammals, birds, frogs, small reptiles, crustaceans, insects, and rarely on fish (Zeiner et al. 1990). Harriers mostly nest in emergent wetland or along rivers or lakes, but may nest in grasslands, grain fields, or sagebrush flats several miles from water (MacWhirter and Bildstein 1996). The northern harrier may nest and forage in some croplands or pasture lands within the General Plan Area.

5. Burrowing Owl: Burrowing owl is a California species of special concern. Burrowing owls prefer open, dry, mostly flat, short grassland habitats with few trees and are often associated with burrowing mammals such as California ground squirrels. They occupy burrows, typically abandoned by ground squirrels or other burrowing mammals, but may also use artificial burrows or burrow surrogates such as abandoned pipes, culverts, and debris piles (California Department of Fish and Game 2012; Haug et al. 1993). This small owl is known to occur east of the junction of the Tuolumne and San Joaquin Rivers, and northeast of the General Plan Area. The burrowing owl may nest and winter in or along suitable cropland and grassland habitat occupied by ground squirrels or vacant lots with suitable burrow surrogate features (pipes, etc.).

6. Short-Eared Owl: The short-eared owl is designated as a California species of special concern. This species once bred locally throughout California where suitable habitat was available. This species is not known to nest anymore in the San Joaquin Valley (Remsen 1978). This species is common in winter in marsh and grassland habitat. Destruction of these areas and shooting have reduced the population of the short-eared owls in the San Joaquin Valley and throughout its historic range in California (Remsen 1978). Short-eared owl may winter in suitable grassland habitat within the General Plan Area.

7. Lesser Sandhill Crane: The lesser sandhill crane is a California species of special concern. This subspecies breeds in Alaska but winters in California within the Central and Imperial Valleys. In winter, grains and seeds are the dominant food source for lesser sandhill crane (Littlefield 2008). Pastures, moist grasslands, and shallow wetlands or flooded fields are used for loafing and roosting. Pasture lands, certain croplands, and grasslands within the General Plan Area may be used by lesser sandhill crane during the winter or migration periods.

8. Yellow-Breasted Chat: Yellow-breasted chat is designated as a California species of special concern. This species is a local breeder in the San Joaquin Valley and inhabits riparian woodlands (Remsen 1978). Breeding habitat consists of early successional-type riparian habitats where a dense understory of thickets and tangles forms below an open canopy. Plant species typically used for nesting include blackberry, wild grape, and willows (Shuford and Gardali 2008). Habitat destruction and parasitism of nests by cowbirds are thought to be factors in the decline of the chat (Remsen 1978). Riparian habitat within the General Plan Area may provide suitable nesting habitat.

9. Loggerhead Shrike: The loggerhead shrike is designated as a California species of special concern. Loggerhead shrikes are a widespread breeding species in North America, occurring from the southern Canadian provinces south across most of the United States and into Mexico (Yosef 1996). A common resident of lowlands and foothills throughout California, this species prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches (Humple 2008). Nests are usually built on a stable branch in a dense shrub or small tree. This species is found most often in open- canopied valley foothill hardwood, conifer, pinyon-juniper, or desert riparian habitats. Loggerhead shrikes are adaptable to urban environments if preferred habitat characteristics and abundant prey supplies are present (Yosef 1996). This species may forage and nest in suitable cropland, pasture land, and riparian habitats within the General Plan Area.

10. Chinook salmon, Central Valley Fall/Late Fall- Run ESU: The Chinook salmon fall/late fall-run Evolutionarily Significant Unit (ESU) is a California species of special concern. The Central Valley fall/late fall-run ESU includes all naturally spawned spring-run populations from the Sacramento-San Joaquin River mainstem and its tributaries. The great majority of late-fall Chinook salmon appear to spawn in the mainstem of the Sacramento River, which they enter from October through February; however, some use the San Joaquin River system. The Stanislaus River, Tuolumne River, and Dry Creek are documented to contain fall/late-fall run Chinook salmon. The rivers and creeks within the General Plan Area provide a migration corridor to spawning and rearing habitat.

11. Sacramento Splittail: The Sacramento splittail is a California species of special concern. Splittail are primarily freshwater fish that have been found mostly in slow-moving sections of rivers and sloughs, and in the Delta and Suisun Marsh they seemed to congregate in dead-end sloughs (Moyle 1976, Moyle et al. 1982, Daniels and Moyle 1983). Splittail are benthic foragers that feed extensively on opossum shrimp (Neomysis mercedis). However, detrital material typically makes up a high percentage of their stomach contents. Splittail apparently require flooded vegetation for spawning and as foraging areas for young, hence are found in habitat subject to periodic flooding during the breeding season (Caywood 1974). This species is known to occur in the San Joaquin River, and may pass through the rivers and creek within the General Plan Area.

12. Hardhead: The hardhead is a California species of special concern. Hardhead typically inhabit undisturbed areas of larger low- to mid-elevation streams. Most streams achieve

summer temperatures more than 20 degrees Celsius. They prefer clear, deep pools and runs with sand-gravel-boulder substrates and slow velocities (Moyle 2002). Larval and post-larval fish probably remain along stream edges in dense cover of flooded vegetation or fallen tree branches (Moyle 2002). Hardhead are known to occur in the Stanislaus and Tuolumne Rivers, and may be present in these rivers within the General Plan Area.

13. Townsend's Big-Eared Bat: Townsend's big-eared bats are designated as a California species of special concern, federal candidate species for listing, and a Western Bat Working Group High Priority Species. These bats live in a variety of communities throughout California, including broadleaf forests, oak and conifer woodlands, arid grasslands, and high elevation forests. Roost sites for this big-eared bat include limestone caves, lava tubes, mine tunnels, bridges, buildings, and other human-made structures (Williams 1986; Pierson 1988). Roost sites are known to occur in eastern Stanislaus County; however, Townsend's big-eared bats are extremely sensitive to disturbance at roost sites. This species was documented using a bridge structure for a night roost in the extreme southeast edge of the General Plan Area. Human-made structures on the edges of the General Plan Area may provide suitable non-maternity roost habitat.

14. Pallid Bat: Pallid bats are designated as a California species of special concern and a Western Bat Working Group High Priority Species. This species occurs in several habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous forests. They are most abundant in the arid Sonoran life zones below 6,000 feet, but have been found up to 10,000 feet in the Sierra Nevada. This bat moves about locally on a seasonal basis, but is not migratory (Jameson and Peeters 1988). During the day, pallid bats roost in buildings, crevices, caves, mines, and hollow trees (Whitaker 1980). The pallid bat has declined due to destruction of maternity roosts. These bats could be expected to occur within the planning area. Pallid bat may roost within the General Plan Area.

15. Western Red Bat: The western red bat is a California species of special concern and a Western Bat Working Group High Priority Species. This species is highly migratory and broadly distributed, ranging from southern Canada through much of the western United States. Western red bats are believed to make seasonal shifts in their distribution, although there is no evidence of mass migrations (Pierson et al. 2006). They are typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas possibly and association with riparian habitat (particularly willows, cottonwoods, and sycamores; Pierson et al. 2006). It is believed that males and females maintain different distributions during pupping, where females take advantage of warmer inland areas and males occur in cooler areas along the coast. Western red bat may roost in trees and shrubs in suitable habitats within the General Plan Area.

16. Valley Elderberry Longhorn Beetle: The VELB is federally listed as threatened and is a California special- status invertebrate. This is a is a cylindrical beetle that is less than an inch long; it feeds and lays its eggs on elderberry shrubs in riparian and woodland communities in the Central Valley and surrounding foothills up to 3,000 feet in elevation (Steinhart 1990).

VELB is threatened by urban development, insecticides and herbicides, and fluctuation in water levels. Restoration of this species to former habitats includes the protection and reintroduction of elderberry bushes. Populations of this beetle are known to occur in Stanislaus County (CDFW 2024).

17. Vernal Pool Fairy Shrimp: The vernal pool fairy shrimp is federally listed as threatened and is a California special-status invertebrate. It can be found in vernal pools containing clear to tea-colored water. It is endemic to grasslands in the Central Valley and the central and southern coastal mountains, occurring in grass bottom swales or earth sump or basalt flow depression pools in unplowed grasslands (Nagano 1992). Destruction of habitat is the major threat to this species. Loss of vernal pools is the primary cause for the decline of the tadpole shrimp. Commercial and residential development, agricultural development, off-road vehicle use, water development and flood control projects, and alteration caused by the modification of surrounding uplands have destroyed as much as 90% of the suitable habitat for these species (59 FR 48136–48153, September 16, 1994). The vernal pool fairy shrimp occurs from Tehama County down to Santa Barbara County, in the Central Valley to the Central Coast Range. Vernal pool fairy shrimp are known from a few locations in Stanislaus County and may occur in vernal pools located in or adjacent to Modesto (USFWS 2024, CDFW 2024).

18. Vernal Pool Tadpole Shrimp: The vernal pool tadpole shrimp is federally listed as endangered and is a California special-status invertebrate. This freshwater invertebrate does not occur in riverine or marine habitats or in other permanent bodies of water. They occur in vernal pools and other seasonal wetlands with seasonal fluctuations in their habitat, such as the presence or absence of water at specific times of the year, duration of inundation, and other environmental factors such as salinity and pH levels. Loss of vernal pools is the primary cause for the decline of the tadpole shrimp. Commercial and residential development, agricultural development, off-road vehicle use, water development and flood control projects, and alteration caused by the modification of surrounding uplands have destroyed as much as 90% of the suitable habitat for these species. The vernal pool tadpole shrimp is found east of Redding in Shasta County, throughout the Central Valley to the San Luis National Wildlife Refuge in Merced County, and in a single population at the San Francisco Bay National Wildlife Refuge, Alameda County. Vernal pool tadpole shrimp are known to inhabit a few locations in Stanislaus County and are likely to occur in vernal pools or other temporary water bodies in or near Modesto (USFWS 2024, CDFW 2024).

19. Steelhead, Central Valley DPS: The Central Valley Distinct Population Segment (DPS) of steelhead is federally listed as threatened. The Central Valley DPS includes all naturally spawned populations (and their progeny) in the Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo bays and their tributaries. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels and fast flowing water. During the winter or early spring, the spawning fish reach suitable gravel riffles (shallow areas with gravel or cobble substrate) in the upper sections of streams and dig their redds. This DPS is known to occur within the

Stanislaus and Tuolumne Rivers. Central Valley DPS steelhead may migrate through the General Plan Area within the Stanislaus and Tuolumne Rivers.

20. Greater Sandhill Crane: The greater sandhill crane is state listed as threatened. In California, this subspecies nests in Siskiyou, Modoc, and Lassen Counties, and does not nest within Central Valley. However, it winters primarily in the Sacramento and San Joaquin valleys, where it frequents annual and perennial grassland habitats, moist croplands with rice or corn stubble, and open, emergent wetlands. It prefers relatively treeless plains. Greater sandhill crane may use suitable pasture lands, croplands, flooded agricultural fields, and shallow wetlands within the General Plan Area during winter and migration seasons.

21. White-Tailed Kite: White-tailed kite is a fully protected species in California. The white-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates.

22. American Peregrine Falcon: The American peregrine falcon is endangered California fully protected species. This species nests on protected ledges of high cliffs in the Coast Range, Sierra Nevada, and other mountains in northern California. Nest locations are often near wetlands, lakes, rivers, and other large water bodies that support prey species. In the winter, peregrine falcons can be found throughout the Central Valley and may occur within the General Plan Area. Peregrine falcons feed on smaller birds that are often captured in flight (Zeiner et al. 1990).

23. Golden Eagle: Golden eagle is a fully protected species in California. It is a year-round resident species that typically inhabits rolling foothill or coastal terrain where open grassland supports prey species (ground squirrels, jack rabbits, etc.). Habitat destruction, shooting, and human disturbance at nest sites are major threats to this species (Remsen 1978). The golden eagle could be expected to occur as an infrequent forager in nearby grassland habitat.

24. Bald Eagle: The bald eagle is state listed as endangered. It does not nest within the Central Valley but is an occasional winter visitor to the Sacramento and San Joaquin Valleys and surrounding foothills. Bald eagles feed along open waterways of streams and rivers. Riparian/riverine habitats are important wintering areas for this species (Mayer and Laudenslayer 1988). Bald eagle may forage along the Stanislaus and Tuolumne Rivers within the General Plan Area in the winter.

25. Swainson's Hawk: Swainson's hawk is state listed as threatened. This species nests along the Stanislaus and San Joaquin Rivers in Stanislaus County, and in suitable trees within

agricultural fields. Swainson's hawks require suitable foraging areas such as short grasslands or alfalfa and grain fields supporting rodent populations next to nesting areas. Known nest sites are in suitable agricultural habitats surrounding the General Plan Area. Nest sites are also located along Stanislaus River, Tuolumne River, and Dry Creek within the General Plan Area (CDFW 2024).

26. Tricolored Blackbird: The tricolored blackbird is state listed as endangered under an emergency listing by the California Fish and Game Commission and is also designated as a California species of special concern. A state resident, the tricolored blackbird is partly migratory within the Sacramento-San Joaquin drainage system and breeds in the San Joaquin Valley (Grinnel and Miller 1944; Beedy 1989). This species breeds adjacent to fresh water, preferring emergent wetlands with tall, dense cattails or tules, thickets of willow or blackberry, and/or tall herbs. Flooded agricultural fields with dense vegetation are also used (Shuford and Gardali 2008). This species is highly colonial; nesting habitat must be large enough to support a minimum of 30 pairs, and colonies are commonly substantially larger (up to thousands of pairs). The tricolored blackbird often intermingles with other blackbird species during the non-breeding season. Croplands, pasture lands, and some wetland habitats within the General Plan Area may provide suitable habitat for tricolor blackbird.

Conclusion

While some new development in Modesto that would occur under the proposed General Plan would occur in areas that have been previously developed, subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special status animal species, since suitable habitat for these species does occur in the region and may occur on future development project sites within Modesto. Additionally, indirect impacts to special status animal species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation because of impacts to water quality, increased human presence, and the loss of foraging habitat.

Construction and maintenance activities associated with future development projects under the proposed General Plan could result in the direct and indirect loss or indirect disturbance of special status plant or animal species or their habitats that are known to occur, or have potential to occur, in the region. Impacts to special status species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special status species associated with individual subsequent projects could include:

- increased mortality caused by higher numbers of automobiles in new areas of development;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through construction areas;
- direct mortality resulting from removal of trees with active nests;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- direct mortality resulting from fill of wetlands features;

- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- abandoned eggs or young and subsequent nest failure for special status nesting birds, including raptors, and other non-special status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special status raptor species;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

Special status animal species receive protection from various Federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of a species or direct impact to foraging and breeding habitat without a special permit. Adherence to the following policies included in the Urban Area General Plan, and compliance with federal and state regulations, would ensure that any future direct or indirect impacts to candidate, sensitive or special-status species would be reduced to a less than significant level as development is proposed and implemented in the Modesto Planning area pursuant to the General Plan:

- SWPH-2: requires site-specific surveys for sensitive natural communities or species prior to development.
- SWPH-3: Avoid and preserve areas occupied by special-status species where feasible. Where avoidance is not feasible, protect these areas with fencing, signs and or buffer zones.
- SWPH-4: Include additional protection measures for sensitive habitats.
- SWPH-5: Table 3.4-4 presents additional environmental protections.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of habitat that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to habitat, therefore, it would not change the previous impact determination. Development facilitated by the UAGP would still be required to comply with the biological resources related policies as established by the UAGP. Therefore, it would not change the previous impact determination of ***less than significant.*** It is noted that the proposed densities changes would allow the City to provide housing capacity for the anticipated population growth on less habitat, which is a beneficial impact when compared to the existing densities.

Impact 3.4-2: The Project would not result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service or have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant)

SENSITIVE NATURAL COMMUNITIES

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDB search revealed six sensitive natural communities within 15 miles of the Modesto Planning Area. This includes Coastal and Valley Freshwater Marsh, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley Oak Riparian Forest, Northern Hardpan Vernal Pool, and Elderberry Savanna.

All six of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them "highest inventory priorities" for future conservation. Of these sensitive natural communities documented within 15 miles of Modesto, none are located within one mile of the Modesto Planning Area.

It is noted that the UAGP designates all riparian corridors within the planning area as open space. This designation decreases the potential impacts on valley foothill riparian, riverine habitat, and associated fresh emergent wetlands within those corridors by limiting the intensity of potential land uses.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. While future development has the potential to result in significant impacts to protected habitats, the implementation of the policies and action discussed above and listed below, as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

WETLANDS AND JURISDICTIONAL WATERS

Streams, rivers, wet meadows, and vernal pools (wetlands and jurisdictional waters) are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special status plants, birds, invertebrates, and amphibians. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the CWA.

Section 404 of the CWA requires any project that involves disturbance to a wetland or water of the U.S. to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is

determined to be present, then a permit must be obtained from the USACE to authorize a disturbance to the wetland. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the CWA ensures that there is "no net loss" of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

The proposed project is a planning document that does not itself approve any specific physical changes to the to the environment, adoption of the proposed project would not directly impact the environment. However, the project could have an indirect change on the physical environment through subsequently approved projects that are consistent with the buildout that is contemplated in the General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Construction and development activities associated with individual future projects could result in the disturbance or loss of waters of the United States. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, encroachment, habitat conversion, routine maintenance, and other development-related activities. Impacts on wetlands and other waters could occur through habitat conversion, encroachment, routine maintenance, or other activities in the immediate vicinity of waterways and in habitat supporting wetlands. Indirect impacts could result from adjacent development that leads to habitat modifications such as changes in hydrology and reduction in water quality caused by urban runoff, erosion, and siltation.

This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The City of Modesto has prepared the General Plan to include numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, the implementation of the policies and actions listed below, as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

CONCLUSION

As noted previously, the UAGP designates all riparian corridors within the planning area as open space. This designation decreases the potential impacts on valley foothill riparian, riverine habitat,

and associated fresh emergent wetlands within those corridors by limiting the intensity of potential land uses. Development of recreational facilities or other open space uses will be subject to the policies of the Planned Urbanizing Area which will ensure that development will be required to meet the protective federal and state laws and regulations. A master plan has been developed for the TRRP, and a master plan will be prepared for the Dry Creek Comprehensive Planning District. These two areas encompass all riparian, riverine, and associated fresh emergent wetland habitats in the Planned Urbanizing Area. Project-specific measures to protect the riparian corridor will be required when the master plan is prepared for the Dry Creek Comprehensive Planning District. The measures implemented to protect riparian, riverine, and wetland habitats including designation of riparian corridors as open space will also ensure that wildlife and fish movement and migration corridors will not be significantly impacted. Implementation of the following policies would ensure that impacts would remain less than significant: SWPH-4 (federal endangered species law), SWPH-6 & SWPH-8 (state-listed species laws) and SWPH-3 & SWPH-4 (City requirements for avoidance).

The Program EIR prepared for the TRRP Master Plan (EDAW 2001) identified several project-specific significant effects that would result from implementation of the plan. They include impacts on riparian habitats, waters of the United States (which includes riverine and fresh emergent wetland), special-status fish species and their habitat, VELB, and nesting raptors. With implementation of the mitigation measures required under the TRRP Program EIR, the impacts would be less than significant. The impacts are detailed in the Program EIR prepared for the TRRP Master Plan, which is hereby incorporated by reference. The TRRP impacts and project-specific mitigation measures are in Appendix F.

Therefore, with implementation of the TRRP mitigation and measures to be developed as part of the Dry Creek master plan, the potential impacts of the UAGP on riparian, riverine, and fresh emergent wetland habitats, their associated special-status species, and wildlife and fish movement and migration corridors would be reduced to a less than significant level.

Areas with potential to support vernal pools occur grasslands east of the Burlington Northern and Santa Fe Railway. Implementation of applicable policies addressed in Table 3.4-4 would address these potential impacts on vernal pool habitat and special- status species with potential to occur in vernal pools.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. However, regardless of these density changes, development facilitated by the UAGP would still be required to comply with the biological resources related policies as established by the UAGP, which was determined this impact to be a less than significant impact. Therefore, it would not change the previous impact determination of ***less than significant.***

Impact 3.4-3: The Project would not 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 native wildlife nursery sites (Less than Significant)

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species everyday survival. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and use corridors for a greater length of time.

As noted in Impact 3.4-2, the UAGP designates all riparian corridors within the planning area as open space. This designation decreases the potential impacts on valley foothill riparian, riverine habitat, and associated fresh emergent wetlands within those corridors by limiting the intensity of potential land uses. Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. However, development of the Planning Area could impede the movement of wildlife by disturbing and/or blocking local movement corridors or by disturbing nursery sites. Many of the species that would normally use annual grasslands and vernal pool complexes as foraging areas would not as easily move across the future urbanized landscapes planned for development. The General Plan includes areas designated for Open Space uses, including farmlands, creeks, riparian areas, and grasslands, which would become the primary wildlife corridors as the landscape urbanizes. However, there is still a reasonable chance that movement corridors could be impacted throughout the buildout of subsequent individual projects.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. The City of Modesto has prepared the General Plan to include policies and actions intended to protect movement corridors from adverse effects associated with future development and improvement projects. For example, Policy SWPH-2 requires site-specific surveys for sensitive natural communities or species prior to development. Additionally, Policy SWPH-3 requires future projects to avoid and preserve areas occupied by special-status species where feasible. Where avoidance is not feasible, protect

these areas with fencing, signs and or buffer zones. Further, Policy SWPH-4 requires inclusion of additional protection measures for sensitive habitats. If movement corridors are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. However, regardless of these density changes, development facilitated by the UAGP would still be required to comply with the biological resources related policies as established by the UAGP, which was determined this impact to be a less than significant impact. Therefore, it would not change the previous impact determination of ***less than significant.***

Impact 3.4-4: The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

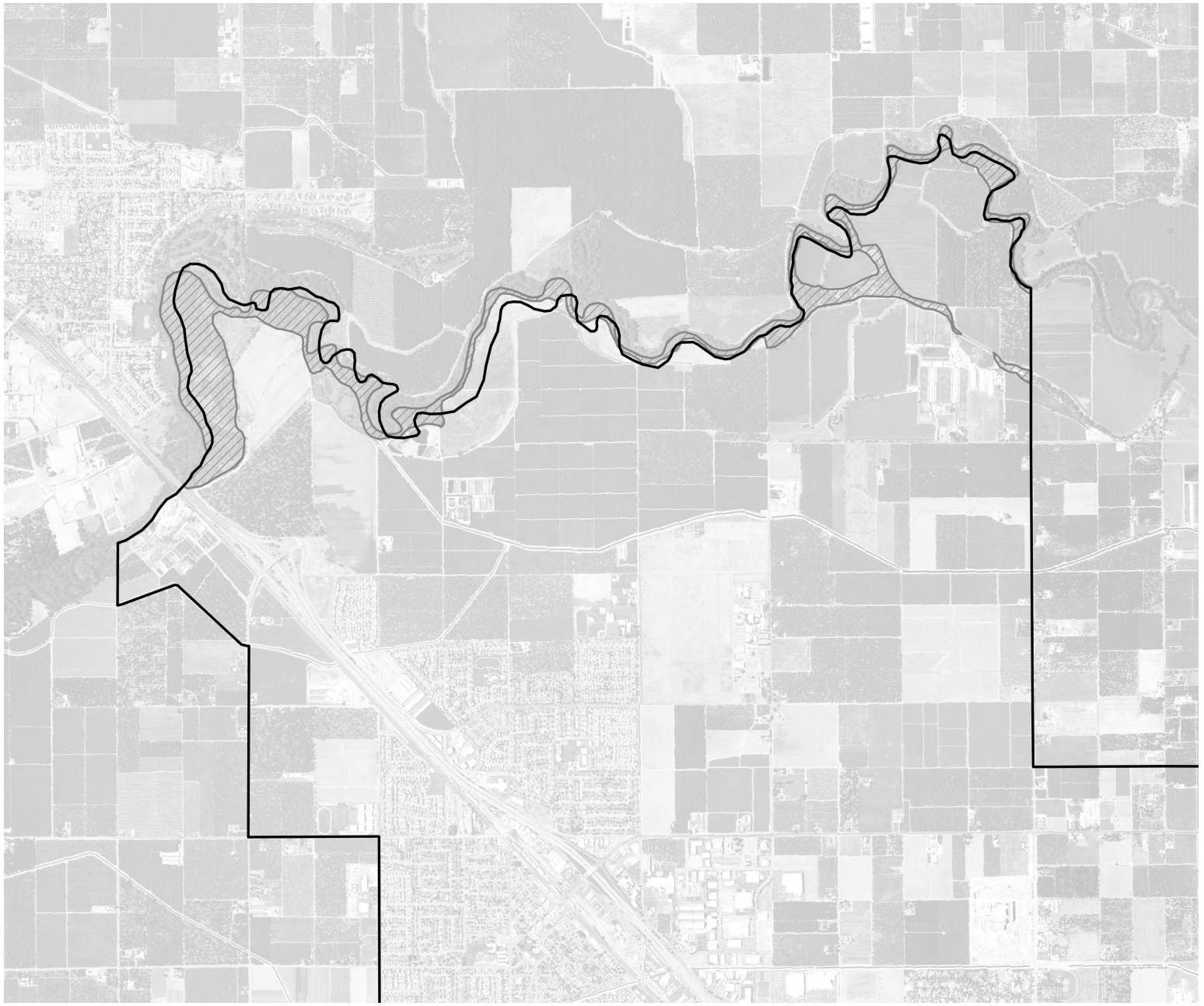
The intent of the proposed Project is the adoption of an amended General Plan. The proposed project is a policy document, in which local policies are established. This EIR presents the numerous policies of the General Plan. The General Plan itself does not conflict with its policies. Subsequent development projects will be required to comply with the General Plan policies, as well as the Municipal Code. The General Plan provides for the continued implementation of local requirements, including policies and ordinances, related to protection of biological resources.

The UAGP would not repeal or affect any existing City, local policies or ordinances protecting local biological resources and therefore no such conflict would occur. This is a ***less than significant*** impact and no mitigation is required.

Impact 3.4-5: The Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (No Impact)

No adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan have been adopted within the UAGP boundary, so there would be ***no impact*** with respect to this topic.

This page intentionally left blank.



CITY OF MODESTO CALIFORNIA

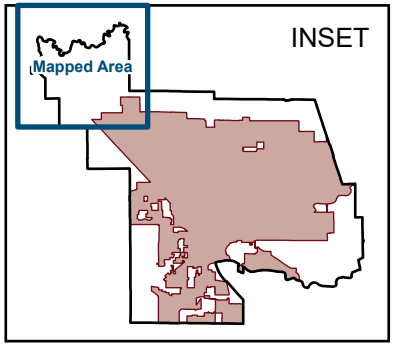
GENERAL PLAN PROGRAM

Figure 3.4-2a.

RIPARIAN AND VERNAL POOL LOCATIONS

Legend

- General Plan Planning Area
- City of Modesto (Inset)
- Potential Biological Resoure Study Area (Riparian Habitat)



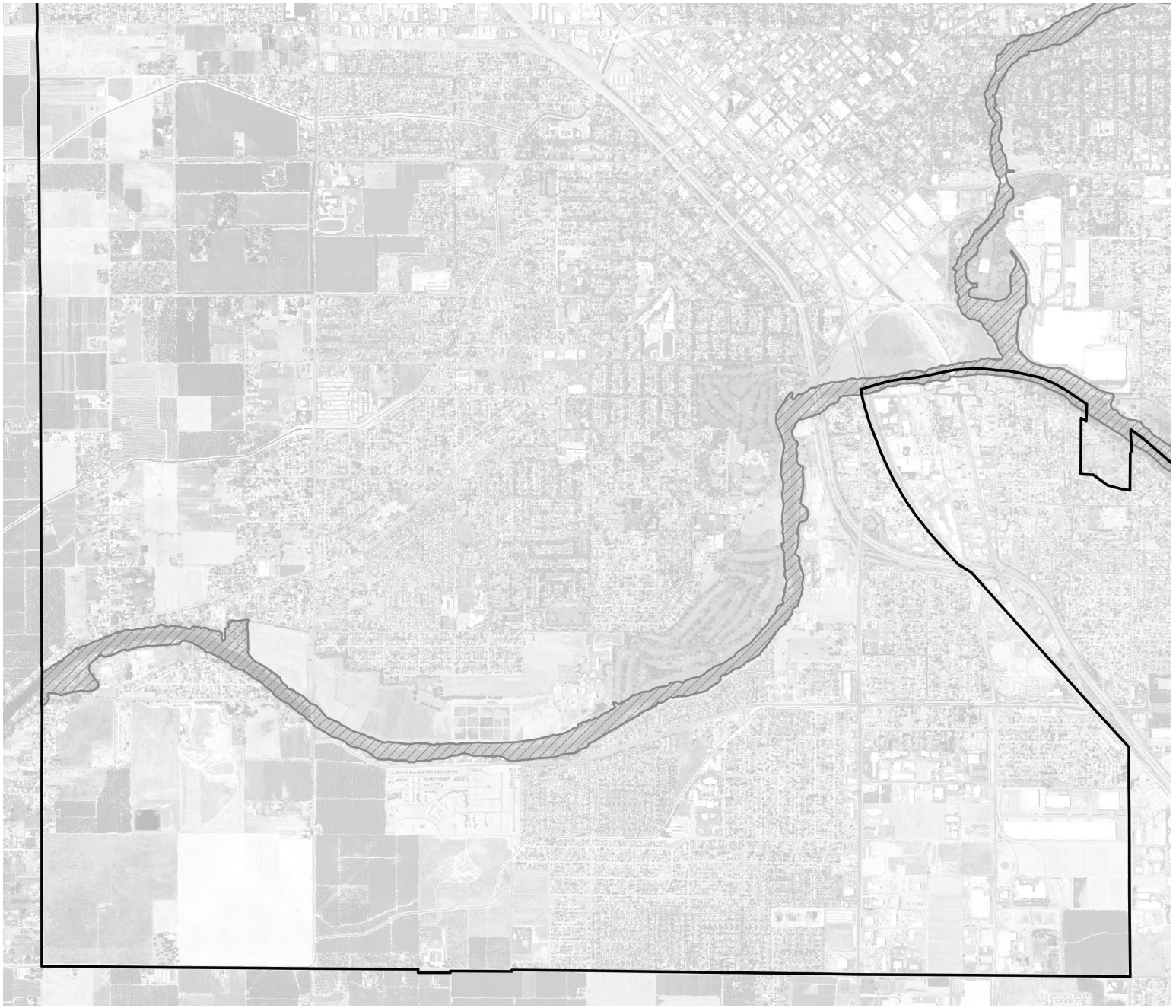
0 ¼ ½
Miles

Sources: Jones & Stokes 2007/wra Environmental Consultants, March 2015.

Map date: October 16, 2024.

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.



CITY OF MODESTO CALIFORNIA

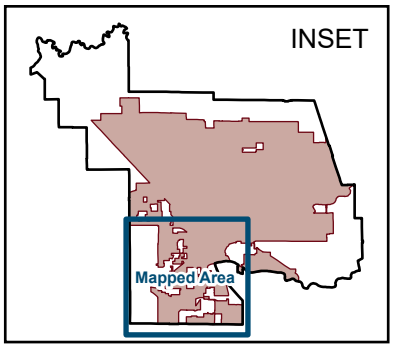
GENERAL PLAN PROGRAM

Figure 3.4-2b.

RIPARIAN AND VERNAL POOL LOCATIONS

Legend

- General Plan Planning Area
- City of Modesto (Inset)
- Potential Biological Resoure Study Area (Riparian Habitat)



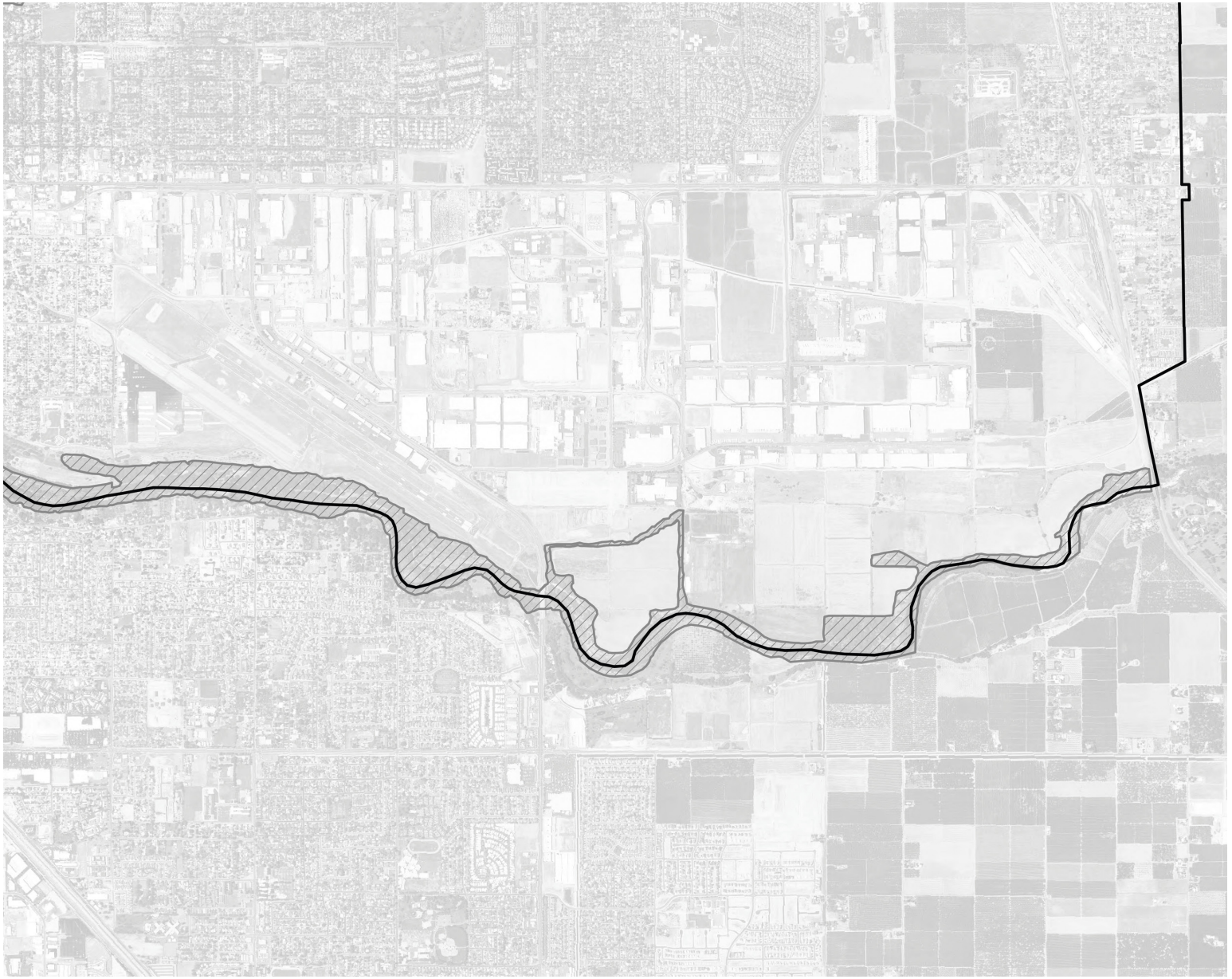
0 ¼ ½
Miles

Sources: Jones & Stokes 2007/wra Environmental Consultants, March 2015.

Map date: October 16, 2024.

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.



CITY OF MODESTO CALIFORNIA

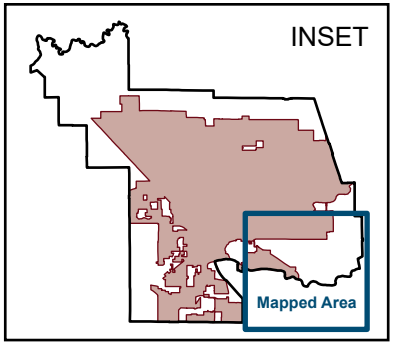
GENERAL PLAN PROGRAM

Figure 3.4-2c.

RIPARIAN AND VERNAL POOL LOCATIONS

Legend

- General Plan Planning Area
- City of Modesto (Inset)
- Potential Biological Resoure Study Area (Riparian Habitat)



0 ¼ ½
Miles

Sources: Jones & Stokes 2007/wra Environmental Consultants, March 2015.

Map date: October 16, 2024.

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.

CITY OF MODESTO CALIFORNIA

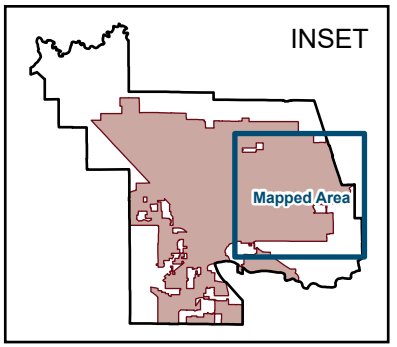
GENERAL PLAN PROGRAM

Figure 3.4-2d.

RIPARIAN AND VERNAL POOL LOCATIONS

Legend

- General Plan Planning Area
- City of Modesto (Inset)
- Potential Biological Resoure Study Area (Riparian Habitat)



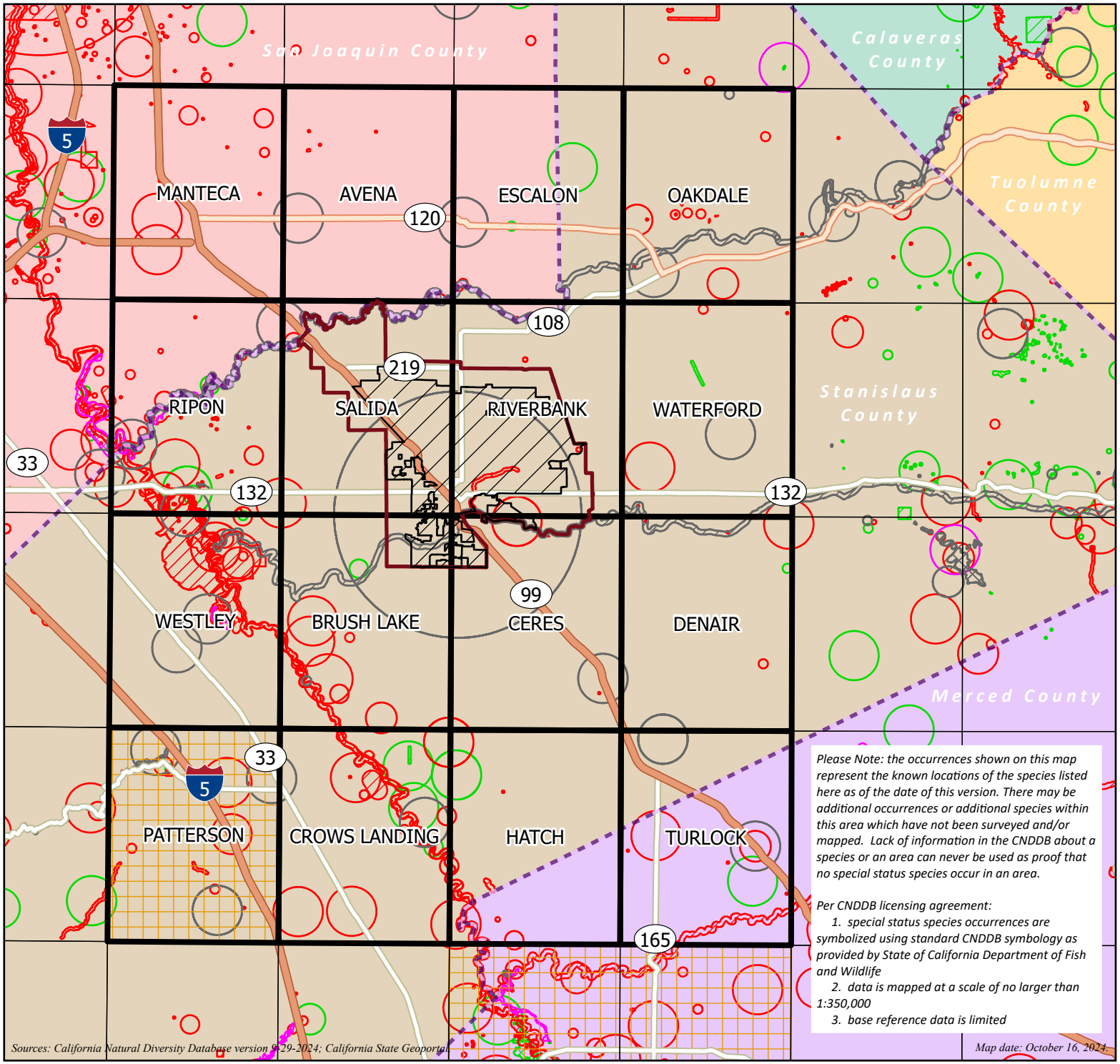
0 ¼ ½
Miles

Sources: Jones & Stokes 2007/wra Environmental Consultants, March 2015.

Map date: October 16, 2024.

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.4-3.

CALIFORNIA NATURAL DIVERSITY DATABASE

Legend

- City of Modesto
- General Plan Planning Area
- County Boundary
- 16-Quad Search Area
- USGS 7.5' Quad
- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive Environmental Occurrence

0 2½ 5
Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.

Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the city's cultural heritage should be considered when planning.

This section provides a background discussion of the prehistory, ethnology, historical period background, and cultural resources found in Modesto. This section is organized with an existing setting, regulatory setting, and impact analysis. Paleontological resources are discussed in Section 3.6, Geology and Soils, of this Draft EIR.

There were no comments received during the NOP comment period related to this environmental topic.

KEY TERMS

The following key terms are used throughout this section to describe cultural and tribal resources and the framework that regulates them:

Archaeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

Ethnography. The study of contemporary human cultures.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

3.5.1 ENVIRONMENTAL SETTING

PREHISTORY

This section describes how development associated with the UAGP would affect cultural resources, including prehistoric and historic archaeological sites, historic architectural resources, and places of importance to California Native American tribes.

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. This environmental setting is the baseline for determining whether an impact of approving and implementing the UAGP is significant.

Although there is little archaeological evidence of human use of the of the Central Valley region during the late Pleistocene and early Holocene (14,000 to 8,000 before present [BP]), this is likely a product of the archaeological record itself, rather than the area's lack of use. Most Pleistocene and Holocene era sites are buried deeply in accumulated gravels and silts, or have eroded away. The earliest archaeological evidence of human use dates from approximately 5,000 BP.

The period from 8,000 to 4,000 BP is referred to as the Early Horizon, and, during this period, a more specialized strategy is thought to have replaced a generalized subsistence strategy. This intensification can be seen in what Fredrickson (1973) has identified as the Windmiller Pattern. Artifact assemblages and faunal remains at Windmiller sites indicate that a diverse range of resources was exploited, including seeds, a variety of small game, and fish. The Windmiller Culture is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charm stones, usually perforated.

The Middle Horizon dates from approximately 4,000 to 1,500 BP. Sites from this period have also been found in the Central Valley. The adaptive pattern that is found most frequently during this period is called the Berkeley Pattern (Fredrickson 1973), though sites displaying the Windmiller Pattern assemblages have also been dated to the Middle Horizon. The Berkeley Pattern differs from the Windmiller Pattern primarily in the increased emphasis on the exploitation of the acorn as a staple, which is shown by the more numerous and varied mortars and pestles. This complex is also noted for its especially well-developed bone industry and such technological innovations as ribbon flaking of chipped stone artifacts.

During this period, flexed burials replace extended burials, and the use of grave goods generally declines (Moratto 2004). The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There are a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

The period between 1,500 BP and the arrival of the Spanish in central California has been named the Late Horizon. The predominant pattern during this period is called the Augustine Pattern (Fredrickson 1973). This period is characterized by large village sites, increasing evidence of acorn and nut processing, introduction and use of the bow and arrow, and use of clamshell disc beads as the primary medium of exchange. During the last part of the Late Horizon, cremation became a common mortuary practice.

ETHNOLOGY

The Planning Area lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names. Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they

were mutually intelligible. The aboriginal inhabitants of the Modesto area were the Northern Valley Yokuts. The following brief discussion is summarized from W. J. Wallace (1978) except where noted.

Northern Valley Yokuts territory is defined roughly by the crest of the Diablo Range on the west and the Sierra Nevada foothills on the east. The southern boundary is approximately where the San Joaquin River bends northward, and the northern boundary is roughly halfway between the Calaveras and Mokelumne Rivers. The Yokuts may have been recent arrivals in the San Joaquin Valley, perhaps being pushed out of the foothills about 500 years ago by peoples expanding out of the Great Basin from the east.

Population estimates for the Northern Valley Yokuts vary from 11,000 to more than 31,000 individuals. Populations were concentrated along waterways and on the more hospitable east side of the San Joaquin River. Principal settlements were located on the tops of low mounds, on or near the banks of the larger watercourses. Settlements were composed of single-family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semisubterranean, and oval. The public structures were large and earth- covered. Sedentism was fostered by the abundance of riverine resources in the area.

Subsistence among the Northern Valley Yokuts revolved around the waterways and marshes of the lower San Joaquin Valley. Fishing with dragnets, harpoons, and hook and line yielded salmon, white sturgeon, river perch, and other species of edible fish. Waterfowl and small game attracted to the water also provided a source of protein. The contribution of big game to the diet was probably minimal. Vegetal staples included acorns, tule roots, and seeds. Goods not available locally were obtained through trade, with overland transport facilitated by a network of trails and tule rafts used for water transport. Paiute and Shoshone groups on the eastern side of the Sierra Nevada were suppliers of obsidian. Shell beads and mussels were obtained from Salinan and Ohlone groups. Trading relations with Miwok groups yielded baskets and bows and arrows.

Most Northern Valley Yokuts groups had their first contact with Europeans in the early 1800s, when the Spanish began exploring the Delta, and the erosion of Yokuts culture began during the Spanish mission period. Escaped mission neophytes brought foreign habits and tastes (both European and other Native American), and there were Spanish expeditions sent to recover escapees. Epidemics of European diseases played a large role in the decimation of the native population. Then, with the secularization of the missions and the release of neophytes, tribal and territorial adjustments were set in motion. People returned to other groups, and several polyglot “tribes” were formed. The final blow to the aboriginal population came with the Gold Rush and its aftermath. In the rush to the southern mines, native populations were pushed out of their territories. Former miners settling in the fertile valley applied further pressure to the native groups, and altered the landforms and waterways of the valley. Many Yokuts resorted to wage labor on farms and ranches. Others were settled on land set aside for them on the Fresno and Tule River Reserves.

HISTORIC PERIOD BACKGROUND

During the late 1700s, the Spanish limited their settlement of "Alta California" to a thin strip of coastal lands represented by the chain of missions constructed during this period.

Explorers of the time limited their incursions into the Central Valley to the pursuit of escaped neophytes, the punishment of raiders, and to locate lost or stolen cattle. By the 1800s, noted Spanish explorers, such as Lt. Gabriel Moraga, increased their expeditions into the valley.

Following Mexico's independence from Spain in 1821, the colonization of California progressed rapidly, with Mexican governors dividing Indian lands into rancho lands. Except for a few grants in the Sacramento Valley, these ranchos were in the same general areas as the missions. Stanislaus County had only five ranchos, so the area remained largely unsettled before the Gold Rush began in 1849.

Once gold was found in the Sierra Nevada, the number of people relocating to California increased dramatically. However, early settlement patterns in Stanislaus County reflected prospectors' desire to forsake valley lands and towns for the more financially lucrative foothills. There were few communities in this early period, and they were primarily considered mining camps. Larger and more permanent settlements sprang up later along the Stanislaus River, including the towns of New Hope, Adamsville, and Paradise. These types of towns increased as disenchanted gold seekers, many with farming backgrounds, realized the agricultural potential of Stanislaus valley lands.

ESTABLISHMENT OF MODESTO—1870

In the late 1860s Collis Huntington, Leland Stanford, Mark Hopkins, and Charles Crocker announced plans to construct a railroad down the San Joaquin Valley to connect the northern and southern portions of the state. However, instead of connecting San Francisco with Los Angeles directly, the "Big Four" decided to build its Central Pacific Railroad in the valley, reasoning that usable land within coastal counties was already privately owned; and, since the San Joaquin Valley was largely government-owned, it was ideal because land grants secured by the railroad in exchange for completion of the route could be located directly along the right-of-way. The sales of these lands helped finance the railroad's overall construction costs.

In September 1869, John James Atherton had purchased 160 acres of land near the center of Stanislaus County from Robert Kirkland and David Monroe. Atherton purchased this land to use as the site for the new railroad town of Modesto.

Subsequently, Contract and Finance Company, which was responsible for constructing the railroad, purchased the property from Atherton. Construction of the Central Pacific Railroad, which merged with the Southern Pacific Railroad, reached Modesto in 1870. The town was plotted like many San Joaquin Valley cities in a grid pattern with streets parallel and perpendicular to the railroad alignment. The railroad constructed its depot at the center of town on a site along J Street between Eighth and Ninth streets, flanked by grain warehouses.

The town of Modesto did not officially incorporate until 1884. During its formative years, the town attracted residents from nearby communities, including Empire City, Paradise, and Tuolumne City, all of which lacked a coveted rail connection.

Modesto was a commercial and transportation center during California's wheat boom, from the early 1860s to the economic downturn in the 1890s. The San Joaquin Valley's climate of hot dry summers and wet winters made it possible for only dry (non- irrigated) farming, which largely consisted of wheat during this period. Wheat was a rich business that demanded high finances and a strong labor pool throughout the season, both of which could be found in Modesto. Given its proximity to the railroad and its many new residents, the success of Modesto as a wheat center was assured until agricultural changes were brought about by shift in wheat markets with competition in the mid-west and the introduction and expansion of irrigation.

By the late 1880s, the Southern Pacific Railroad had a virtual monopoly on shipping in the San Joaquin Valley, much to the dismay of many San Joaquin farmers. The San Francisco Traffic Association was formed in 1891 to break the SPRR's monopoly and lower shipping rates in the region by developing a second railroad through the Central Valley. The association established the San Francisco & San Joaquin Valley Railroad in 1893. The Stockton to Bakersfield line, built between 1895 and 1897, offered a lower cost alternative to Southern Pacific. Having achieved their goal, the San Francisco Traffic Association sold the railroad line to the Atchison, Topeka & Santa Fe Railroad in 1898. The Southern Pacific route passed directly through Modesto while the Atchison, Topeka & Santa Fe route was located approximately five miles east of downtown Modesto, passing through Empire. Railroad transportation opportunities were further increased in 1909 when the Modesto Interurban Railway was constructed. This five-mile passenger electric railroad connected Modesto with Empire and thus the two major railroads. In addition to providing improved transportation between the two towns, the railroad was intended to increase competition between the two major railroads and ultimately lower prices. By 1911, the railroad was operated by the Modesto and Empire Traction Company and, as the industrial area grew east of Modesto in the 1910s, it shifted from primarily passenger to primarily freight traffic; the last passenger train ran in 1917. Originally the railroad linked with the Southern Pacific line near Ninth and H streets, but this was realigned to create a connection just east of the intersection of C and Seventh streets.

Later as motor vehicles began to be widely used, Modesto was served by the Golden State Highway (also known as Highway 99 and later State Route 99). This highway was a main corridor connecting southern and northern California through the Central Valley when it opened in 1915. Often referred to as the "main street" highway, it initially followed existing thoroughfares through urban centers. Modesto's location near the center of San Joaquin Valley and its status as Stanislaus County seat lent it preference as a hub along Golden State Highway. The highway entered Modesto from the north on Ninth Street, crossing over the railroad tracks at I and G streets, and leaving the southern end of the city on Seventh Street.

MODERN MODESTO FOLLOWING THE ESTABLISHMENT OF IRRIGATION—1903

As the wheat bonanza ended in Stanislaus County during the early 1890s, the residents realized that a dependable system of irrigation was necessary to ensure a more stable farm economy. Although irrigation was in use on a limited basis during the last half of the nineteenth century, it was not until the early twentieth century that the system, as imagined by the residents of Modesto area, was completed. The state legislature passed the Wright Act in 1887 allowing for formation of irrigation districts and taxes to be levied to fund construction of irrigation systems. The first two of these districts to form were in and around Modesto. The Turlock Irrigation District (TID) was formed on the south side of the Tuolumne River, encompassing Ceres and Turlock, and the Modesto Irrigation District (MID) was formed on the north of the Tuolumne River and included Empire, Modesto, and Salida. To provide a more stable source of water for the planned irrigation systems and desiring to extend the irrigation season, TID and MID entered into an agreement in 1890 to purchase water rights and property to construct a dam on the Tuolumne River. Together, the two irrigation districts constructed LaGrange Dam between 1891 and 1893 after agreeing to split the cost of the project and future water claims. Despite the dam construction, development of irrigation canals stalled. Opposition from local farmers led to right-of-way litigation, while the depression of 1893 and a constitutional challenge to the Wright Act delayed the availability of capital investment for construction of the irrigation systems. County farmers did not experience the benefits of the MID and TID efforts until the districts' canals systems were in place in the early twentieth century. In June 1903 irrigation water that had been promised more than 16 years earlier finally arrived. Following years of court battles, many farmers along the main canal accessed irrigation water for the first time.

The Modesto area changed rapidly after the implementation of the new irrigation system. The local population increased, land prices rose, and the larger ranches were subdivided. Almost immediately alfalfa became the dominant crop, as its demand increased to supply a new interest in dairying. Another significant change to the area was the cultivation of orchard crops such as peaches, apricots, almonds, and oranges. As the cultivation of alfalfa, orchard, and other crops increased, the processing segment of the agriculture industry, including canning, construction, and financing, also grew.

By 1910, Modesto's population was estimated at 4,500. The City continued to grow, and between 1921 and 1923 MID and TID constructed Don Pedro Dam to provide a new source of electrical energy for the region, as well as to expand water storage capacities for irrigation and to provide municipal water. Former wheat farms were subdivided and planted with grape vineyards, nut orchards, and alfalfa, among a variety of other crops. Dairy farming also rose in popularity and Stanislaus County became one of the largest dairy producers in the state. The growth in agriculture helped stimulate the development of commercial, residential, and civic growth in the early 20th century.

Growth in Modesto continued through the 1920s, reaching a population of nearly 14,000 by 1930. During this period, downtown remained the prominent center of commercial and social activity.

As the population grew, new schools were constructed, social organizations founded, and a wide variety of commercial businesses opened to support the city's increasing needs. The city's development during this period occurred following a new city charter that was adopted in 1910, and in 1911 a new mayor, five city councilmen, and a school board were elected, ushering in a new era of government organization. As the city continued to grow in the early twentieth century, many of its citizens focused on improving the quality of life through expanded social and civic endeavors, including lending support for construction of civic monuments like Modesto Arch built in 1912 and the Seventh Street Bridge over the Tuolumne River on the south end of the city in 1917. Designed by John Buck Leonard and his partner William Peyton Day, this structure, also known as the Lion Bridge for its prominent recumbent lions situated atop the railings above the bridge abutments, was a high visible primary entrance into Modesto from the south and its Classical design made it one of the best examples of the City Beautiful-inspired civic enhancement in the San Joaquin Valley.

Despite Modesto's strong economy, businesses suffered decreased commercial activity during the Great Depression of the early 1930s, and unemployment was high. With the coinciding Dust Bowl in the Great Plains states, thousands of people migrated to the Central Valley in search of work. Without adequate work, these recent immigrants felt the brunt of the Great Depression. They relied in part on community assistance and lived in homeless camps, or "Hoovervilles;" Modesto's homeless camp was located along the Tuolumne River under the Seventh Street Bridge. The city's economy slowly began to rebound following the end of Prohibition in 1933, in part through the growth of the revived alcohol industry. One of Modesto's largest companies, the E&J Gallo winery, opened immediately after Prohibition ended. Most of the development that occurred through the 1930s remained largely within the original town plan, although some areas north and west of the city were subdivided into residential tracts. During this period the Golden State Highway's route was shifted to Ninth Street, which emerged as the new auto row as cars became increasingly common on the city's streets.

MODESTO DURING AND AFTER WORLD WAR II

Like many cities throughout California, Modesto experienced rapid growth in the 1940s, 1950s, and 1960s following World War II. Nearby military installations, including Hammond Army General Hospital located at Blue Gum Avenue and Carpenter Road, brought many new people to Modesto during the war. The city's humble population of about 16,000 residents in 1940 climbed to more than 36,500 by 1960. This population expansion led to a geographical dispersal, as people began to leave the downtown core of Modesto, and a need for more housing. New residential subdivision sprung up in the city's suburban areas, primarily to the north and east of Modesto's original town site. These suburban postwar tracts typically had 200 or fewer houses.

Commercial businesses followed their customers into the city's suburbs as formerly residential roadways were turned into major commercial corridors. Whereas prior to the war, downtown boasted hundreds of businesses, in the years after the war, former county roads were quickly becoming the city's most popular locations for commerce. Several city and county government facilities were replaced with modern buildings in the late 1950s and early 1960s, including the Modesto City Hall, Modesto Police and Communications facility, Stanislaus County Courthouse,

and Stanislaus County Jail. In the arena of industry, Shell Oil Company opened an agricultural research laboratory, intended to investigate, and improve the crop production using chemical products like pesticides. Such developments indicated the continued close ties between Modesto's industrial and commercial sectors and the success of agriculture in the surrounding area. Among one of the most prominent infrastructure developments during this time was construction of State Route 99 as a freeway, which was constructed on the west side of the city in 1965. California began the process of improving SR 99 to a four-lane expressway prior to World War II, but increased funding and focus on the freeway system following the war provided impetus to the project. Work through the city of Modesto began in 1955 south of the city and slowly worked northwards. The new freeway moved several blocks west bypassing the former main street route and contributing to the decline of downtown as a shopping center. Final improvements to the project were made in 1976 with the construction of the Beckwith interchange at the northern end of Modesto.

Modesto continued to expand through the rest of the twentieth century, increasing its population from more than 61,700 in 1970 to more than 188,800 by 2000.

Geographically, most of this expansion occurred in the areas north, northeast, and southeast of downtown region as the city limits expanded to the bordering community of Salida and city of Ceres. The areas south and west saw limited residential and commercial development during this period. However, starting in the 1960s, the area east of Modesto, along the north side of the Tuolumne River, grew into one of the area's principal industrial regions, known as the Beard Industrial District. Served by the Modesto & Empire Traction Company railroad, which connected to the Southern Pacific Railroad and Atchison, Topeka and Santa Fe following its construction in 1909, this area included manufacturing factories, distribution centers, and heavy commercial businesses. The mid-twentieth century economic flight away from downtown had become so acute by the late 1970s, that the city took pains to revitalize the area. Mimicking redevelopment projects of other cities, Modesto expanded its government offices and services and initiating a community center project in its downtown core.

Modesto still seeks to balance its development between an active commercial and civic life downtown, expanding residential and commercial areas around the periphery, and drawing economic opportunities to the area.

WOOD COLONY

Wood Colony is an agricultural area immediately west of Modesto located in the unincorporated portion of Stanislaus County. Like other swaths of the San Joaquin Valley during the 1860s, Wood Colony was settled as a large-scale wheat farming area in 1869. This area's agriculture and development shifted with the availability of irrigation from the Modesto Irrigation District, soil depletion from extensive wheat farming, and an increasingly competitive wheat market, all of which led to the subdivision of the large wheat farms and introduction of diversified agriculture. In 1904, local businessmen Oramil McHenry and Albert B. Shoemake subdivided the former Eben Wood wheat farm and marketed it as Wood Colony. As settlers came to the area the larger area

from Murphy Road to Maze Boulevard and as far west as Hammett Road was commonly referred to as Wood Colony.

Settlers came from across the country during the 1900s and 1910s to take up residence in Wood Colony, the largest homogeneous group was members of the Old German Brethren. The Old German Brethren are a conservative religious denomination. They are Anabaptists originating in Germany in the early 1700s who immigrated to America shortly after to avoid persecution. In America they sought affordable farmland and a location that would allow them the space to develop their religious community that worked to maintain older customs that eschewed modern technological developments and included specific forms of plain dress and styles of worship. By the 1870s they had established congregations in multiple locations across the country including California. Advertisements for Wood Colony attracted church members from Wittier, and later extended family members from other locations.

Dairies and alfalfa cultivation formed most crops in the early decades of the century. Irrigation allowed for the addition of orchards and vineyards. Peaches, apricots, grapes, and melons became popular crops. Nut cultivation including walnuts and almonds were introduced. By 1916 the district was exhibiting squash, pumpkin, corn, Burbank cactus, tobacco, nuts, figs, pears, apples, pomegranates, plums, beans, tomatoes, cucumbers, and melons at the Stanislaus County Fair.

In 1910 the census of the area included numerous dairy farms, but by 1920 the number of diaries markedly declined. This corresponds with the introduction of increasing dairy regulation aimed at developing safer products. Jacob Cover's early experience with tree nuts was among the first orchards in the area and he was joined by Howard H. Huls who began stone fruit farming in the area. By 1920 the Wood Colony Precinct, not entirely synonymous with the community, had 66 families living in it. Based on census records, many new families had moved to the area – somewhat diluting the influence of the Old German Brethren.

Initially the Old German Brethren differed little from their neighbors of other religious denominations. The steady introduction of new technologies, telephones, automobiles, and electricity resulted in internal differences among the Brethren as they sought to align these innovations with their religious lives. The congregations divided three times over doctrinal and technological issues. Despite the divisions the community focus of the Brethren provided an important unifier in the area.

Following World War II Modesto experienced rapid population growth and expanded to the north and east. Rural residential units not associated with agriculture began to be constructed in Wood Colony assisted in part by improvements to Highway 99.

Improvements to almond production techniques led farmers in Wood Colony to plant new orchards, and orchards replaced earlier field crops rapidly through the 1950s and 1960s. Today the area is dominated by orchard crops and rural residential homes are scattered among the farmsteads.

PHYSICAL CONDITIONS

Cultural resource(s) is a general term that includes many types of physical remains of past human activities as well as other types of resources important to California Native American tribes and other ethnic groups. Cultural resources include prehistoric and historic archaeological remains; historic architectural remains such as buildings and structures, as well as other features of the built environment; and places of importance to California Native American tribes. Cultural resources that are known to exist in the Modesto planning area include historic and prehistoric archaeological resources, and historic architectural resources. Such resources as are known to exist or may be discovered offer insight into the lives of the original inhabitants of the area and provide an understanding of the City's development. These resources of the past have a place in the future of the City of Modesto.

3.5.2 CULTURAL RESOURCES IN THE MODESTO PLANNING AREA

PREHISTORIC ARCHAEOLOGICAL RESOURCES

Archaeological resources include material remains indicating the presence of California Native American tribes: artifacts that were made, used, or altered by people, such as lithic (stone) material, groundstone, and discarded artifacts; and human remains. These items are often found in midden deposits, a rich, organic, dark brown soil that contains charcoal, ash, and food waste (shell, bone, and seeds), but they may also be found individually, isolated from other archaeological remains.

Midden deposits are evidence of human activity and generally reflect use of an area over a long period of time. Intermittent use of an area by California Native Americans can also be seen in lithic scatters and food processing sites such as bedrock mortar sites or areas with mortars and pestles.

Burial grounds or cemeteries are also often associated with habitation. Frequently, burials include associated artifacts, which provide significant clues about people, such as their social status, wealth, level of technology, and religious beliefs.

The archaeological resource study areas, as depicted on the 1995 Program EIR diagrams, indicate areas of the Modesto planning area where there is the highest potential for impacts on cultural resources. The study area boundaries should be considered preliminary and subject to refinement as site-specific information becomes available. Several archaeological resources have been identified within the Modesto planning area and environs. Specifically, four sites have been recorded at the Central California Information Center (CCIC), in Turlock, California. These areas include habitation sites, burials, and artifact concentrations that are located near the Stanislaus and Tuolumne Rivers, Dry Creek, and terraces above waterways. However, information on prehistoric cultural resources in the Modesto planning area is limited, and is often obtained because of development or other proposed activities where archaeological research is required. Agricultural use, grazing, and urban expansion often obscure evidence of archaeological resources.

Previous archaeological studies in the urban area have been limited but include surface surveys by professional archaeological consultants and a survey conducted by an avocational archaeologist during the 1940s. According to a records search by the CCIC in 1994, surveys have been conducted along Dry Creek. Surveys conducted between the Stanislaus River and Dry Creek have been sporadic and limited to project-specific areas, and only a few surveys have been conducted along the Tuolumne River. Since the 1994 records search, additional cultural resource studies have been conducted in the area, mostly for project-specific sites, and are listed with the CCIC. These studies show that areas of high sensitivity for prehistoric cultural resources include land along the various natural waterways.

HISTORIC ARCHAEOLOGICAL RESOURCES

Historic archaeological resources include remains of human activities from non-Native Americans; these include trash deposits and scatters, building foundations, mining operations, farms and ranches, and roads and trails. Remnants of razed buildings lie beneath the surface and include related deposits such as trash pits. These sub-surface features are some of the only evidence of past activities, enterprises, and peoples. For example, before the institution of garbage collection, refuse was buried in residential backyards or dumped in privy pits or abandoned wells. These trash deposits are often rich in artifacts and can reveal information about early residents, providing significant social and cultural data. An example is the area designated as Chinatown on the Sanborn Maps (1885 through 1911). Although Chinatown is gone, potentially significant cultural resources relating to Chinese-Americans may still exist below present-day shops and businesses. Also, a sensitive area for historic archaeological resources is the original one-square-mile town area that dates to the 1870 founding of Modesto. And pre-urban development along the rivers and valley left sensitive areas for cultural resources relating to ranching, agriculture, mining (gold rush activities, ferry crossings), and the Mexican period.

HISTORIC ARCHITECTURAL RESOURCES

Historic architectural resources generally include structures (residential, commercial, civic, farm, and ranching) relating to historic occupation of an area. In the Modesto planning area, known or identified historic architectural resources are primarily found within the urban area, and many have been placed on various preservation lists. Four buildings and a historic bridge are listed on the National Register of Historic Places (NRHP). Properties are also listed on the California Points of Historical Interest (1992) and the California Inventory of Historic Resources (1978). As of 2014, the City of Modesto's Landmark Preservation List includes 58 entries – buildings, structures, objects, and natural features of local importance. The Modesto Art Museum initiated a Modesto Heritage project as a part of its "Building a Better Modesto" Program. The museum has assembled a database and photographic collection of notable buildings in Modesto and prepared brochures and walking tours of Modesto's Modernist (post-World War II) architecture. The museum's list of notable architecture does not have official standing, but may provide a guide for future local, state, or national designation. Additional buildings may have been determined eligible for the NRHP and CRHR by outside agencies, but not publicly reported.

General periods of social and economic development help reveal the growth patterns of the present Modesto planning area. The physical growth periods and associated historic resources include:

- Town development—1870 to 1900 (McHenry Mansion, Crow House, Davis House / Hatten Home, Bienenu Law Office, Chinatown area);
- Urban expansion—1900 to1930 (historic residential area around Needham Street and Coleman, Pacific Telephone Building, McHenry Memorial Library, Graceada and Enslen Park); and
- The Great Depression—1930 to 1940 (U.S. Post Office, the Grange Company, Pump Station No. 9).
- World War II and Post –war development – 1940s -1960s (Modesto City Hall, Stanislaus County Hall of Records, Wachovia Bank, Walton House)

These resources reflect the private, civic, and commercial history and character of the City.

CALIFORNIA NATIVE AMERICAN RESOURCES

Places of importance to California Native American tribes or other ethnic groups include sacred places, burial grounds, areas where certain natural resources are collected or used, and areas where traditional cultural practices have long been conducted or observed. Pursuant to the requirements of SB 18 (Chapter 905, Statutes of 2004), City staff requested a list of Tribes from the Native American Heritage Commission for the purpose of sending written correspondence offering consultation regarding the General Plan amendment project. The Northern Valley Yokuts, Southern Sierra Miwuk Nation and Tule River Tribes were contacted; none responded to request consultation.

HISTORIC PROPERTY DESCRIPTIONS

Several historic properties within the City of Modesto have been listed on the NRHP, the California Register of Historical Resources, the California State Points of Historical Interest, and the City of Modesto Landmark Preservation Sites list. Some city landmarks are eligible for the California Register of Historical Resources (CRHR), but no formal steps have been taken to nominate them. The following provides a summary of the documented historical resources.

National Register of Historic Places

Eight properties have been listed in or have been determined eligible for the NRHP. They include the McHenry Mansion, the U.S. Post Office—El Viejo Station, the Crow House, Dry Creek Bridge No. 38-54, the Southern Pacific Railroad Depot, the Walton House, Hotel Covell, and the Seventh Street ("Lion") Bridge.

1. The McHenry Mansion is a restored historic home located at Fifteenth and I Streets. The McHenry family built the house in 1883. The mansion was listed on the NRHP in 1978.

2. The U.S. Post Office is located on Twelfth and I Streets. Built in 1932, its interior wall murals were painted by Ray Boynton, a Work Projects Administration artist. The post office was listed in the NRHP in 1983.
3. The Crow House, or the Walter B. Wood House, was originally located at 814 Twelfth Street. The house was originally owned by Walter Wood and was constructed in 1877 in the Italianate style. The house has been removed from its original location, and modern renovation of the house has compromised its NRHP designation.
4. Dry Creek Bridge, formerly on State Route 132 now Gilmore Avenue, was found eligible for its design. The bridge (No. 38C0323) was built in 1907 and is an example of John B. Leonard's bridge designs.
5. The Southern Pacific Railroad Depot was constructed in 1915 in the Mission style at the corner of J and Ninth Streets. The City of Modesto was established as a town by the Southern Pacific Railroad in 1870. The building has been restored and expanded as the City Transportation Center.
6. The Dr. Robert G. and Mary Walton House (417 Hogue Dr) was constructed in 1957, as a development of Frank Lloyd Wright's New York Usonian Exhibition House concept.
7. Hotel Covell (1023 J Street) was constructed in 1924 and expanded in 1928. The building is constructed in the Beaux Arts tyle with Italian Renaissance influences and is a significant example of the style in Modesto.
8. Seventh Street Bridge (Lion Bridge, Bridge No. 38C0023) was determined eligible in 1986. The bridge was built in 1916 and is significant as an example of the work of Leonard & Day constructed in a Beaux Arts style using 'canticrete' bridge engineering.
9. San Joaquin Pipelines 1 and 2 are part of the Hetch-Hetchy system built in 1932 and are individually eligible. This resource is underground though the UAGP area.

Two additional properties have been surveyed and found eligible for listing in the NRHP, although they have not been formally determined eligible by SHPO:

1. Pacific Telephone Building (1201 11th Street) built in 1922
2. Hawke Castle (115 Magnolia Avenue) built in 1929 and listed on the local register.

California Register of Historical Resources

The CRHR includes properties that are listed on or determined eligible for the NRHP, State Historical Landmarks, selected State Points of Historical Interest, and resources nominated directly to the CRHR. Eligible historical resources are nominated for the CRHR and may be added to the register after review of the nomination by the State Historical Resources Commission. Modesto has no historical resources listed only on the CRHR, however, all the properties listed in the NRHP listed or formally determined eligible for the NRHP are automatically listed in the CRHR. Several of the 410 properties that were inventoried in 1984 for the City of Modesto Landmark Preservation Sites, as well as buildings that were surveyed in 1997 by Carey & Co., that are now on the City's Landmark Preservation Sites list are probably eligible for listing on the CRHR, but have not been nominated.

California Historical Landmarks

There are no cultural properties listed for the Modesto planning area that have California Historical Landmark status.

California State Points of Historical Interest

One property, the McHenry Mansion, is listed on the State Points of Historical Interest.

City of Modesto Landmark Preservation Sites

In March 1984 a survey was conducted in which 410 properties were identified as eligible for landmark status. The list was updated in October 1992 with an additional 42 properties.

Structures include government buildings, churches, schools, fraternal organizations, commercial buildings, hotels, and residential and apartment buildings. As of 2014, 58 sites have been designated as City of Modesto Landmark Preservation Sites (see Figure 3.5-1).

TABLE 3.5-1: CITY OF MODESTO LANDMARK PRESERVATION SITES

LANDMARK SITE #	*NAME*	*ADDRESS*	*DESIGNATION DATE*
1	McHenry Mansion	906 15th Street	12/5/1989
2	McHenry Museum	1402 I Street	12/5/1989
3	Modesto Arch	9th & I Streets	12/5/1989
4	Modesto Ash Tree	Sierra & 3rd Streets	10/9/1990
5	Pump Station No. 9	10th & Needham Streets	10/9/1990
6	Woolworth Co. Sign	1014 10th Street	10/9/1990
7	Fire Station No. 2	629 2nd Street	10/9/1990
8	Cressy Manor	917 17th Street	11/13/1990
9	Turner Hitching Post	1104 14th Street	4/23/1991
10	Modesto News Herald Building	726 10th Street	4/23/1991
11	Hawke Castle	115 Magnolia Avenue	4/23/1991
12	McClure Country Place	1500 N. McClure Road	11/26/1991
13	U.S. Post Office & Federal Building	1125 11th Street	11/26/1991
14	Seventh Street Bridge	7th Street	4/28/1992
15	Fire Bell	629 2nd Street	4/28/1992
16	Enslen Park	Stoddard & Enslen Avenues	12/8/1992
17	Graceada Park	Sycamore & Needham Avenues	12/8/1992
18	Rammed Earth House	1027 N. Enslen Avenue	7/13/1993
19	Southern Pacific Transportation Center	9th & J Streets	12/7/1993
20	Ralph M. Brown Home	309 Magnolia Avenue	3/22/1994
21	Gallo Founder Home	401 11th Street	3/22/1994
22	State Theatre	1307 J Street	1/10/1995
23	Graham Home	206 Roselawn Avenue	7/25/1995
24	Masonic Temple	1500 J Street	7/25/1995

LANDMARK SITE #	*NAME*	*ADDRESS*	*DESIGNATION DATE*
25	Stockton Savings Bank	1101 J Street	7/25/1995
26	H Street Façade of Modesto High School	18 H Street	7/25/1995
27	Wissner Medical Office Building	901 McHenry Avenue	11/14/1995
28	Elk's Lodge	1222 I Street	4/2/1996
29	First Church of Christ Scientist	1328 H Street	10/8/1996
30	Acacia Memorial Park	801 Scenic Drive	12/3/1996
31	Modesto Pioneer Cemetery	905 Scenic Drive	12/3/1996
32	Modesto Cemetery	1001 Scenic Drive	12/3/1996
33	St. Stanislaus Catholic Cemetery	1141 Scenic Drive	12/3/1996
34	Stanislaus County Cemetery	1001 Scenic Drive	12/3/1996
35	Dr. Donald Robertson Home	211 Elmwood Court	12/3/1996
36	City's Christmas Tree	19th/H/La Loma Streets	3/25/1997
37	Stanley Home	225 Stoddard Avenue	6/24/1997
38	John M. Walthall Home	118 Sycamore Avenue	6/24/1997
39	Pacific Telephone Building	1012 11th Street	10/14/1997
40	Gundlach Residence	410 Elmwood Avenue	11/12/1997
41	Lish Residence	125 Poplar Avenue	3/24/1998
42	Guzman Residence	215 Stoddard Avenue	3/24/1998
43	Ayres Residence	319 Elmwood Avenue	3/24/1998
44	Harris Home	230 Sycamore Avenue	5/19/1998
45	Large Valley Oak Tree	Tuolumne River Regional Park	7/14/1998
46	Bunya Bunya Tree	Graceada Park	11/10/1998
47	Balmannos Residence	207 Elmwood Court	5/4/1999
48	Cadrett Residence	201 Hintze Avenue	7/27/1999
49	Montrie & Robinson Residence	1001 Magnolia Avenue	7/27/1999
50	Anderson Residence	501 Magnolia Avenue	8/24/1999
51	Scully Residence	124 Sycamore Avenue	10/10/2000
52	Municipal Golf Course	400 Tuolumne Boulevard	3/27/2001
53	Foy Apartments	1418–1430 I Street	2/26/2002
54	Centenary Methodist Church201 Needham Street	201 Needham Street	5/14/2002
55	McDonald Residence (historic name "Johnson House")	503 West Morris Avenue	8/6/2003
56	Draizen Residence (historic name "Dr. J. C. Robertson House")	215 Elmwood Court	3/22/2005
57	Lundgren House	218 Elmwood Court	12/15/2006
58	Silva House	216 West Morris Avenue	6/12/2007

DOWNTOWN HISTORIC RESOURCES SURVEY

The Modesto Landmark Preservation Commission reviewed the survey of downtown properties prepared by Carey & Company in 1997, which ranked each property in the Downtown Area according to survey codes. The Commission determined that those properties that are in categories 1, 2, and 3 should be considered historical resources for the purposes of CEQA. These would include sites with the following status:

1. Listed in the National Register
2. Determined eligible for the National Register in a formal process involving federal agencies
3. Appears eligible for listing in the National Register in the judgment of the person(s) completing or reviewing the form

There are 15 sites covered by the 1997 survey rated 1, 2, and 3 that were determined to be of historical interest by the Commission. Many of these resources were identified as significant resources during this process, but not were not designated city landmarks:

1. Southern Pacific Transportation Center, 9th & J Streets, Rating: 1
2. McHenry Mansion, 906 15th Street, Rating: 1
3. Federal Building (Post Office), 1125 I Street, Rating: 1
4. Modesto City Fire Department No. 1, 610 11th Street, Rating: 3
5. Davis-Hatton House, 909 14th Street, Rating: 3
6. Abel & Ellman Office, 1015 14th Street, Rating: 3
7. Cressey Home, 915–917 17th Street, Rating: 3
8. First United Methodist Church, 850 16th Street, Rating: 3
9. McHenry Museum, 1402 I Street, Rating: 3
10. Teamster' Hall, 1222 I Street, Rating: 3
11. Modesto Arch, 9th and I Streets, Rating: 3
12. St. Stanislaus Catholic Church, 709 J Street, Rating: 3
13. Beatty Building, 1024 J Street, Rating: 3
14. State Theater, 1307 J Street, Rating: 3
15. Modesto Water Pump Station No. 9, 10th and Needham Streets, Rating: 3

3.5.3 REGULATORY SETTING

FEDERAL

National Historic Preservation Act (NHPA)

The National Historic Preservation Act (NHPA) establishes the framework for the protection of historic and cultural resources that apply to actions and activities by federal agencies and has limited application to state or local actions. Compliance with the NHPA influences the actions and activities at state and local level when a state or local agency uses federal funding or requires a federal permit that are considered an undertaking under the act. The compliance procedure for

such undertakings is under Section 106 of the NHPA and its implementation regulations established in Title 36 of the Code of Federal Regulations, Part 800.

Section 106 requires that projects including funding and permits, consider effects on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on these actions. Historic properties are buildings, structures, objects, sites, and districts that are listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP). The NHPA also requires that federal agency heads, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to historic properties. The federal agency is required to identify historic properties, assess the effects on them, and consider alternatives to avoid or reduce these effects. The agency is then required to consult with the State Historic Preservation Officer (SHPO) on its findings.

Section 106 review is typically undertaken as part of the federal NEPA process, but may also be completed separate from NEPA review. The Section 106 process has five basic steps:

1. Identify and evaluate historic properties;
2. Assess effects of the project on historic properties;
3. Consult with the SHPO regarding adverse effects on historic properties, resulting in a Memorandum of Agreement (MOA);
4. Submit the MOA to the ACHP; and
5. Proceed in accordance with the MOA.

The NRHP was established to recognize resources associated with the country's history and heritage. Guidelines for nomination are based on significance in American history, architecture, archaeology, engineering, and culture. In most cases properties must be over 50 years old to qualify, unless they have exceptional historical significance. Under federal regulations, a project influences a historic property when the undertaking could alter the characteristics that may qualify the property for inclusion in the NRHP, including alteration of location, setting, or use. An undertaking may be considered to have an adverse effect on a historic property when the effect may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Adverse effects on historic properties include but are not limited to the following:

1. Physical destruction or alteration of all or part of the property;
2. Isolation of the property from or alteration of the property's setting when that characteristic contributes to the property's qualifications for listing in the NRHP;
3. Introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting;
4. Neglect of a property resulting in its deterioration or destruction; or,
5. Transfer, lease, or sale of the property out of federal ownership.

The lead federal agency is responsible for compliance with Section 106, but the actual tasks needed for compliance may be delegated to others, like state and local agencies. Historic properties

identified during the Section 106 process are usually considered as historical resources for compliance with CEQA.

STATE

California Environmental Quality Act of 1971 (CEQA)

CEQA requires state and public agencies to identify significant environmental impacts of their discretionary actions and either avoid or mitigate those impacts to historical resources, unique archaeological resources, and California Native American human remains. Historical resources under CEQA include buildings, structures, objects, sites, districts, and archaeological resources that are historically or culturally significant. Usually, resources must be over 50 years of age to qualify, except in select circumstances. CEQA Guidelines Section 15064.5(a) and Public Resources Code (PRC) Section 21084.1 define historical resources as those listed or eligible for listing in the CRHR. Unique archaeological and California Native American resources are defined and discussed in other sections of the CEQA Guidelines.

Any resource that is listed in or eligible for listing in the CRHR is to be considered under CEQA. Resources may be included in the CRHR as follows:

1. Some are listed automatically, including California State Historical Landmarks from number 770 onward and all properties listed in, or formally determined eligible for, the NRHP;
2. State Historical Landmarks below number 770 and State Points of Historical Interest individually evaluated and recommended for listing in the CRHR based on procedures developed by the State Historical Resources Commission; or,
3. Other resources can be nominated to the CRHR by local governments, private organizations, or citizens; these include individual resources, historical resources contributing to the significance of a historical district, resources identified in a historical resources survey with a significance rating of 1 to 5, and resources designated as local landmarks or listed by City or County ordinance.

To be eligible for California State Landmark registration, a cultural resource must have statewide significance as the first, only, or most significant of a type in a region; be associated with an individual who has had a profound influence on the history of California; or have architectural significance. The structure must also be visible and accessible to the public and must be maintained by the owner in its historic style (California State Landmarks Board).

The criteria for governing California State Points of Historical Interest are generally the same as those which govern state landmarks, but are oriented to local, city, or county areas. Points of Historical Interest should be significant to the county or local area's social, cultural, economic, political, religious, or military history (California State Landmarks Board).

CEQA is the primary mandate governing projects under state jurisdiction that may affect cultural resources. Other laws governing cultural resources that may also pertain include Public Resources Code (PRC) Section 97.9 et seq. (Native American Heritage) and Health and Human Safety Code

7050.5 et seq. (Human Remains). Records about Native American graves, cemeteries, and sacred places, as well as information about the location of archaeological sites, are exempt from being disclosed to the public under California's equivalent of the Freedom of Information Act (also known as "Sunshine Laws") (California Government Code [CGC] 6254.10). Such information is considered sensitive and confidential, and should not be contained in a public document.

CEQA requires that public agencies assess the effects on historical resources for discretionary actions, both for public and private projects. Historical resources are defined as buildings, sites, structures, objects, or districts that may have historical, architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resource's investigation for CEQA compliance are as follows:

1. Identify known and potential historical resources;
2. Evaluate the eligibility of historical resources; and,
3. Assess the impacts of the project on all eligible historical resources.

The State CEQA Guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review:

1. The resource is listed in or determined eligible for listing in the CRHR.
2. The resource is included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey that meets the requirements of PRC Section 5024.1(g), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. The lead agency determines the resource to be significant as supported by substantial evidence considering the whole record (State CEQA Guidelines 15064.5[a]).

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

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

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

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

CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed. Therefore, prior to the assessment of effects or the development of mitigation measures, the significance of cultural resources must first be determined.

The steps that are normally taken in a cultural resource's investigation for CEQA compliance are as follows:

- Identify potential historical resources, based on the criteria discussed above.
- Evaluate the eligibility of unlisted historical resources for listing in either the CRHR or NRHP.
- Evaluate the effects of a project on all eligible historical resources.

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (State CEQA Guidelines Section 15064.5[b]). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. Actions that would materially impair the significance of a historic resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR (California Register of Historical Resources) or in a local register or survey that meet the requirements of Sections 5020.1(k) and 5024.1(g) of the Public Resources Code. When determining what is a significant resource, CEQA presumes that any resource listed in or eligible for listing in the CRHR or NRHP is significant, creates a rebuttable presumption that any resource that is on a local list is significant, and allows a public agency to decide that other resources may also be significant. (CEQA Guidelines Section 15064.5).

UNIQUE ARCHAEOLOGICAL RESOURCE

CEQA (PRC Section 21083.2) states that a unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, beyond adding to the current body of knowledge, there is a high probability that it:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and quality, such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Government Code 65352.3-5 (Senate Bill 18): Local Government–Tribal Consultation

CGC Section 65352.3-5, formerly known as Senate Bill (SB) 18, states that before adoption or amendment of a city or county general plan or specific plan, the city or county shall consult with California Native American tribes that are on the contact list maintained by the Native American Heritage Commission (NAHC). This legislation is intended to preserve or mitigate impacts on places, features, and objects, as defined in PRC Sections 5097.9 and 5097.993, that are located within the city's or county's jurisdiction. The bill also states that the city or county shall protect the confidentiality of information concerning the specific identity, location, character, and use of those places, features, and objects identified by Native American consultation. CGC 65362.3- 5 applies to all general and specific plans and amendments proposed after 3/1/2005.

Assembly Bill 52 (2014) amending Section 5097.94 of the California Public Resources Code and adding Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3: Local Government–Tribal Consultation

This bill adds protection to specific California Native American cultural resources (Tribal Cultural Resources) by requiring lead agencies to consult with California Native American tribes traditionally and culturally affiliated with the geographic area of a proposed project that are requesting such consultation regarding the existence of and potential impacts on Tribal Cultural Resources that may be a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a tribe that is also listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources. Assembly Bill 52 also caused changes to the sample questions in Appendix G of the CEQA Guidelines to separate cultural resources from paleontological resources and add more specific sample questions regarding Tribal Cultural Resources, making explicit the need to evaluate impacts on any such resources and requiring mitigation for any potentially significant impacts.

LOCAL

Stanislaus County General Plan

CHAPTER 3. CONSERVATION/OPEN SPACE ELEMENT

Historic and Cultural Sites

Within Stanislaus County, there are 20 National Registry of Historic Places listings, 5 state landmarks, and 7 points of historical interest. These records of known archaeological and historical sites are filed with the Office of Historic Preservation, Central California Information Center, California State University, Stanislaus, Turlock, California. Exact locations are kept confidential to protect these valuable resources. The two chief historical areas within Stanislaus County are in and around the gold rush towns of Knights Ferry and La Grange. Located in the community are several historic buildings considered worthy of preservation. The County, working closely with the residents of these communities, has established a historical site zone ensuring that all development within the two towns will be consistent with their historical nature.

City of Modesto Urban Area General Plan

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as AH-*X,* where *X* is the discrete number).

AH-1: Implement regulations that identify important historic resources, and preserve the important aspects of those resources. Encourage adaptive reuse of National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligible or potentially eligible buildings, and local landmarks, including historically sensitive restoration. (UAGP Policy VII.F.2[a]**)**

AH-2: Perform restoration and renovation of landmark buildings in accordance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties" and the State Historic Building Code. The standards serve as guidelines for rehabilitation, restoration, preservation, retaining, and preserving the historic character of a property. (UAGP Policy VII.F.2[b])

AH-3: Ensure that zoning provisions for structures of historical significance are sufficiently flexible to ensure that parking or other structures requirements of the Zoning Ordinance allow the historic structures to remain viable in the future. (UAGP Policy VII.F.2[c])

AH-4: The modification of historic structures and places can be mitigated through the application of existing regulations and consultation with the State Historic Preservation Officer (SHPO), an interim procedure whereby the City evaluates proposals to modify historic structures and the proposed program(s) to reduce the impacts, if any, to a less than significant level in accordance with CEQA Guidelines Section 15064.5. If an historical resource evaluation has not been prepared for any such proposal, prepare one for the purpose of determining whether the proposed mitigation would reduce the impacts to a less than significant level. If the project appears to have impacts on eligible or potentially eligible structures, the project proponent will resolve adverse effects through consultation with the SHPO. (UAGP Policy VII.F.2[d])

AH-5: When structures or areas of historical significance more than 50 years old are proposed for alteration or demolition, or where construction is proposed on property adjacent to that structure or area and within 100 feet of it, the property owner is to submit data to the City that has been prepared by a qualified architectural historian regarding the structure's history or locations. Evaluate the historical significance of the proposal and require policies to be applied to preserve all structures and places deemed historically significant. (UAGP Policy VII.F.2[e])

AH-6: Maintain professional standard inventories of historic resources, with the findings of those inventories concurred by the SHPO and kept on file with the State Office of Historic Preservation. The records will provide a preliminary assessment of eligibility at the initial study stage to indicate whether CEQA regulations would apply in the case of a project application or whether the resource has previously been determined ineligible. When no previous survey has been conducted or an historical context prepared, buildings and structures more than 50 years old and/or otherwise potentially significant must be evaluated by a professional historian or architectural historian prior to project approval to determine whether the resource is a historically significant resource, for purposes of CEQA. (UAGP Policy VII.F.2[f])

AH-7: When a landmark is established, have the character-defining elements of the landmark identified by a qualified architectural historian, qualified City staff member, or other professional qualified under Secretary of Interior Standards to convey the historic significance of the property and to facilitate review of future changes and the identification of potentially significant impacts to the property. Actions or activities that follow Secretary of Interior Standards, in consultation with SHPO, can be considered to have mitigated any potential adverse impacts to a less-than-significant level. (UAGP Policy VII.F.2[g])

AH-8: When proposed development lies within the archaeological resource study area (defined as the Riparian and Vernal Pool Locations shown on MEIR Figure V-7-1), analyze the area to determine whether it has a high potential to have been used by Native Americans or contain prehistoric deposits. Resources to be utilized include archival research through the Central California Information Center at CSU Stanislaus, preliminary surface field reconnaissance, consultations with the Native American Heritage Commission (NAHC) and individuals and organizations identified by the NAHC. Any archaeological resources discovered shall be recorded and mapped.

Require an evaluation of the significance of any such resources only when proposed development might affect the resources. (UAGP Policy VII.F.2[h])

AH-9: If land designated or proposed to be designated for development is discovered through archival research, consultation or by chance, to contain a sacred or traditional place, consult with the NAHC and the appropriate Native American groups and individuals for the purpose of determining the level of confidentiality required to protect the cultural place and for the purpose of developing treatment with appropriate dignity of the cultural place in any corresponding management plan. Avoid and preserve sacred sites whenever feasible. (UAGP Policy VII.F.2[i])

AH-10: Consistent with AB 52 of 2016, conduct consultations with the Native American Heritage Commission and the appropriate Native American Tribes for the purpose of determining the level of confidentiality required to protect identified cultural place(s), if any, and for the purpose of developing treatment with appropriate dignity of said cultural place(s) in any corresponding management plan. Avoid and preserve sacred sites whenever feasible. (UAGP Policy VII.F.2[j])

AH-11: For any project that involves earth-disturbing activities within the archaeological resource study area (defined as the Riparian and Vernal Pool Locations shown on MEIR Figure V-7-1), or on a site determined to be archaeologically or culturally sensitive by City staff through consultation with Native American tribes or bands and a qualified archaeologist, require the project applicant to implement the following mitigation measures, at a minimum:

1. Where excavation or construction would occur outside of areas where development has occurred, or where excavation / construction would occur at depths greater than existing foundations, roads, and/or trenches in the immediate vicinity, evaluate the site via a qualified archaeologist retained by the project applicant. Said evaluation would include at minimum a records search, a Phase I pedestrian survey, and preparation of an archaeological report containing the results of this cultural resources inventory identification effort for submittal to the Central California Information Center. If a Phase II archaeological evaluation is recommended, complete a report of the survey and any excavations with recommendations prior to project approval;
2. In the event of the discovery of a burial, human bone, or suspected human bone, immediately halt all excavation or grading in the vicinity of the find and protect the area of the find. The project applicant shall immediately notify the Modesto Police Department and County Coroner of the find and comply with the provisions of California Health and Safety Code Section 7050.5, including California Public Resources Code Section 5097.98, if applicable. If human remains are identified, also retain a Native American monitor at the applicant's expense;
3. A qualified archaeological monitor will be present and will have the authority to stop and redirect grading activities, in consultation with the Native Americans and their designated monitors, to evaluate the significance of any Native American archaeological resources discovered on the property; and,
4. Relinquish ownership of all Native American human remains and/or artifacts that are found within the project area, to the appropriate Native American Most Likely Descendent (MLD), as assigned by the Native American Heritage Commission, for proper treatment and disposition. The MLD will decide whether or not standard archaeological analysis will be allowed on human remains and associated artifacts from burials.
5. If paleontological resources are discovered during earth-moving activities, the construction crew shall immediately cease work in the vicinity of the find, and the City's Planning Manager shall be notified. A qualified paleontologist shall evaluate the resource to determine if it is significant. If the resource is significant, prepare a proposed mitigation plan in accordance with Society of Vertebrate Paleontology guidelines. The proposed mitigation plan may include a field survey of additional construction areas, sampling and

data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered. (UAGP Policy VII.F.2[k])

AH-12: Whenever possible, avoid disturbing or damaging archaeological resources. Preservation in place to maintain the relationship between the artifacts and the archaeological context is the preferred manner of mitigating impacts to archaeological sites. Preservation may be accomplished by:

1. Planning construction to avoid archaeological sites;
2. Incorporating sites within parks, green space, or other open space;
3. Covering the sites with a layer of chemically stable soil; and/or,
4. Deeding the site into a permanent conservation easement.

When in-place mitigation is not feasible, data recovery through excavation may be necessary. A data recovery plan, which makes provisions for adequately recovering the scientifically consequential information about the site, shall be prepared and adopted prior to any excavation being undertaken. Such studies must be deposited with the Central California Information Center in Turlock, California. Special rules apply to any archaeological sites known to contain human remains (Health and Safety Code Section 7050.5; Guidelines Section 15126.4(b)).

Data recovery shall not be required if the lead agency determines that testing or studies already completed have adequately recovered the necessary data, provided that the data have already been documented in another EIR and are available for review at the California Historical Resource Regional Information Center (Guidelines Section 15126.4(b)). (UAGP Policy VII.F.2[l])

AH-13: Allow reasonable time for the qualified archaeologist to notify the proper authorities for a more detailed inspection and examination of the exposed cultural resources. During this time, excavation and construction would not be allowed in the immediate vicinity of the find; however, those activities could continue in other areas of the project site. (UAGP Policy VII.F.2[m])

AH-14: If any find is determined to be significant by the qualified archaeologist, representatives of the construction contractor and the City, the qualified archaeologist, and a representative of the Native American community (if the discovery is an aboriginal burial) will meet to determine the appropriate course of action. (UAGP Policy VII.F.2[n])

AH-15: All cultural materials recovered as part of a monitoring program are subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards. (UAGP Policy VII.F.2[o])

AH-16: Any project subject to CEQA that involves substantial earth-disturbing activities should require consultation by the applicant for the purposes of determining the potential for archaeological and cultural resources impacts and creating appropriate mitigation to address any such impacts. (UAGP Policy VII.F.3[a])

AH-17: Any project that involves earth-disturbing activities within previously undisturbed soils in an area determined to be archaeologically or culturally sensitive by the City of Modesto through consultation with Native American tribes or bands and a qualified archaeologist should be subject to archaeological and Native American monitoring during all ground-disturbing activities. (UAGP Policy VII.F.3[b])

AH-18 Any project that involves earth-disturbing activities within previously undisturbed soils in an area determined to be archaeologically or culturally sensitive by the City of Modesto through consultation with Native American tribes or bands and a qualified archaeologist should be required to carry out the following mitigation measures, at a minimum:

1. If prehistoric archaeological remains are discovered during project construction (inadvertent discoveries), all work in the area of the find shall cease, and a qualified archaeologist should be retained by the project sponsor to investigate the find, and make recommendations as to treatment and mitigation. In the event of the discovery of a burial, human bone, or suspected human bone all excavation or grading in the vicinity of the find should halt immediately and the area of the find should be protected and the project applicant immediately should notify the County Coroner of the find and comply with the provisions of California Health and Safety Code Section 7050.5, including California Public Resources Code Section 5097.98, if applicable. If human remains are identified, the project sponsor should also retain a Native American monitor;
2. A qualified archaeological monitor should be present and should have the authority to stop and redirect grading activities, in consultation with the Native Americans and their designated monitors, to evaluate the significance of any Native American archaeological resources discovered on the property;
3. Native American monitors from the appropriate Native American Tribes, as determined by the NAHC should be allowed to monitor all groundbreaking activities, including all archaeological testing and data recovery excavations that are likely to affect Native American resources, as determined by a qualified archaeologist. The project proponent should be responsible for compensating Native American monitors. If human remains are discovered, the NAHC should assign a Most Likely Descendent (MLD); and,
4. The landowner agrees to relinquish ownership of all Native American human remains and associated burial artifacts that are found within the project area, to the appropriate Native American MLD, as assigned by the NAHC, for proper treatment and disposition. The MLD will decide whether or not standard archaeological analysis will be allowed on human remains and associated artifacts from burials.
5. If paleontological resources are discovered during earth-moving activities, the construction crew shall immediately cease work in the vicinity of the find, and the City's Planning Manager shall be notified. A qualified paleontologist shall evaluate the resource and prepare a proposed mitigation plan in accordance with Society of Vertebrate Paleontology guidelines. The proposed mitigation plan may include a field survey of additional construction areas, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations

determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered. (UAGP Policy VII.F.3[c])

City of Modesto Municipal Code

The City of Modesto Landmark Preservation Ordinance establishes the recognition, preservation, enhancement, perpetuation, and use of structures, natural features, sites, and areas within the City of Modesto that have historic, architectural, archaeological, structural engineering, or aesthetic significance. The eligibility of a site is determined after public hearings by Modesto Landmark Preservation Commission recommendation, plus public hearing and final determination by the City Council. (Municipal Ordinance No. 2619)

3.5.4 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

According to the CEQA, a project with an effect that may cause a substantial adverse change in the significance of historical resources is a project that may have a significant effect on the environment (CEQA rev. 1998 Section 15064.5[b]). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. Actions that would materially impair the significance of a historic resource are any actions that would demolish or materially alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meets the requirements of Sections 5020.1(k) and 5024.1(g) of the PRC.

The UAGP would have a significant impact to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k);
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the

criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: The Project would cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section 15064.5 (Significant and Unavoidable)

General Plan buildout could impact prehistoric and historic resources due to site development activities. Known historical resources are primarily located within the Baseline Developed Area, which is already developed. If a site-specific project involves the modification or demolition of a qualifying structure more than 50 years old, the impact(s) would be potentially significant.

Numerous buildings associated with rapid post-World War II development are reaching the 50-year threshold. Such buildings have the potential to be significant for their association with this period of development and/or as examples of mid- to late-twentieth century architecture and design or masterworks. These may include individual buildings or tracts of development. The Modesto Art Museum has developed background information and lists of buildings, structures, and objects characterizing Modernist design principles in its *Modernism in Modesto* brochure and *Modesto Modernism* walking tour. California Department of Transportation has developed a general context for the development of tract housing following World War II, *Tract Housing in California, 1945- 1973: A Context for National Register Evaluation*, which provides useful information for determining the potential for residential historical resources from this period.

Areas of high probability for archaeological resources are located within the riparian corridors (i.e. Tuolumne River, Dry Creek, and the Stanislaus River). These areas are designated for conservation and recreational use by the UAGP, so the possibility for impact is low. In addition, new development in the vicinity will be subject to the project-specific mitigation measures identified in project-specific environmental documents.

There is a low probability that archaeological resources would be uncovered in areas outside of the riparian corridors during construction activities. Should this occur, UAGP policies require construction activities to cease, and analysis / inspection by a qualified archaeologist.

The City Zoning Ordinance requires that when substantial changes to a structure are proposed, the development will be required to comply with other Zoning Ordinance provisions such as parking or landscaping requirements. This could result in modifications to the structure which substantially reduce its historical significance. This would be a less-than-significant impact with the application of UAGP Policies AH-1 through AH-4, because the standards of care and preservation processes defined therein would serve to protect and maintain the characteristics that are the basis of the identified historical significance. Demolition of a significant building cannot be mitigated to a less

than significant level, and, even with implementation of mitigation measures, the impact would be ***significant and unavoidable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. In effect, the density change would not cause any direct physical changes related to historic or archaeological resources, therefore, it would not change the previous impact determination of ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies AH-1 through AH-18, described above, would serve to minimize any impacts to archaeological and/or historical resources. These policies would require compliance with applicable state and federal laws regarding treatment and protection of identified resources, in addition to "industry-standard best practices" that would be applied to protect archaeological resources discovered during grading or construction activities. These policies would reduce impacts to a less-than-significant level except where a significant historic building would be demolished.

Impact 3.5-2: Potential to lead to the disturbance of any human remains (Less than Significant)

Indications are that humans have occupied Stanislaus County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities may yield human remains that may not be interred in marked, formal burials.

Although Native American human remains are normally associated with former residential village locations, isolated burials and cremations have been found in many other locations. Future projects may disturb or destroy buried Native American human remains, including those interred outside of formal cemeteries. Consistent with state laws protecting these remains (that is, Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98), sites containing Native American human remains must be treated in a sensitive manner. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the General Plan and existing State law.

If Native American human remains are inadvertently discovered during development activities. Existing law requires that human remains are treated in compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. Implementation of existing law ensures that potential adverse impacts to human remains would be ***less than significant*.**

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. In effect, the density change would not cause any direct physical changes related to the disturbance of any human remains, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies AH-11, described above, would serve to minimize any impacts to the disturbance of human remains. In the event of the discovery of a burial, human bone, or suspected human bone, immediately halt all excavation or grading in the vicinity of the find and protect the area of the find. The project applicant shall immediately notify the Modesto Police Department and County Coroner of the find and comply with the provisions of California Health and Safety Code Section 7050.5, including California Public Resources Code Section 5097.98, if applicable. The project applicant shall relinquish ownership of all Native American human remains and/or artifacts that are found within the project area, to the appropriate Native American Most Likely Descendent (MLD), as assigned by the Native American Heritage Commission, for proper treatment and disposition.

Impact 3.5-3: Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency (Less than Significant)

Specific locations for future development and improvements have not been identified. Future projects would be required to be evaluated for project-specific impacts under CEQA at the time of application. The General Plan and local CEQA guidelines require tribal consultation and the protections of any identified archeological and tribal resources. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

All future development projects would be required to follow development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of tribal resources. Subsequent projects would be required to prepare site-specific project-level analysis to fulfill CEQA requirements, which also would include additional AB 52 and/or SB 18 consultation that could lead to the identification of potential site-specific tribal resources.

As discussed under Impacts 3.5-1 and 3.5-2, impacts from future development could impact unknown archaeological resources including Native American artifacts and human remains.

Impacts would be reduced to a less-than-significant level with implementation of General Plan policies and actions and local review guidelines. Compliance with the General Plan policies and actions, as well as State and local guidelines would provide an opportunity to identify, disclose, and avoid or minimize the disturbance of and impacts to a tribal resource through tribal consultation and CEQA review procedures. Therefore, impacts related to tribal resources because of General Plan implementation would be considered ***less than significant***.

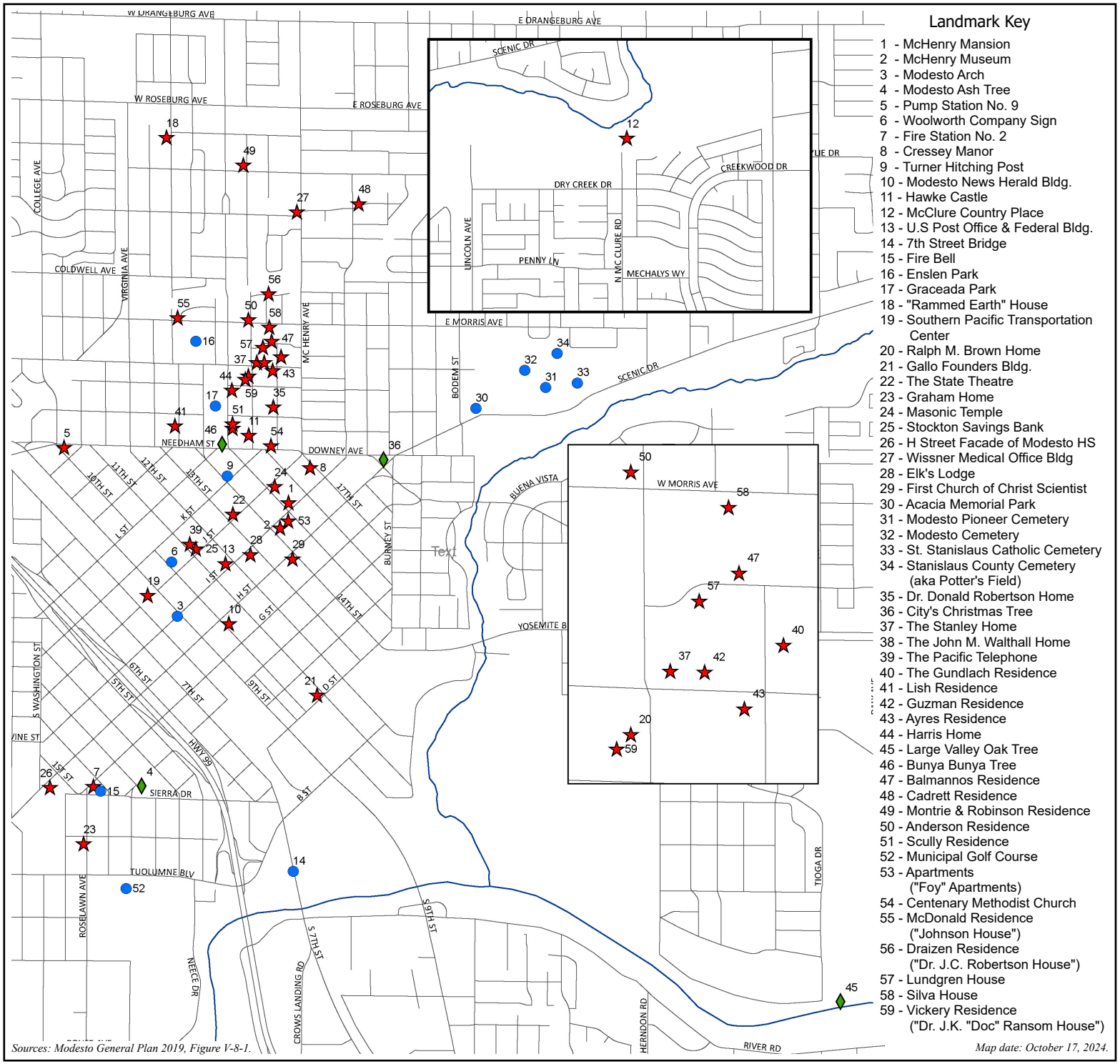
PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. In effect, the density change would not cause any direct physical changes related to tribal cultural resources, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

UAGP policies AH-8, -9, -10, -11, -14, -17, and -18, described above, would serve to minimize any impacts to tribal resources. These policies would require compliance with applicable state and federal laws regarding treatment and protection of identified Native American resources, in addition to "industry-standard best practices" that would be applied to protect archaeological resources discovered during grading or construction activities. These policies would reduce impacts to a less-than-significant level except regarding the treatment and protection of Native American resources.

This Page Intentionally Left Blank.



Landmark Key

1 - McHenry Mansion
2 - McHenry Museum
3 - Modesto Arch
4 - Modesto Ash Tree
5 - Pump Station No. 9
6 - Woolworth Company Sign
7 - Fire Station No. 2
8 - Cressey Manor
9 - Turner Hitching Post
10 - Modesto News Herald Bldg.
11 - Hawke Castle
12 - McClure Country Place
13 - U.S Post Office & Federal Bldg.
14 - 7th Street Bridge
15 - Fire Bell
16 - Enslen Park
17 - Graceada Park
18 - "Rammed Earth" House
19 - Southern Pacific Transportation Center
20 - Ralph M. Brown Home
21 - Gallo Founders Bldg.
22 - The State Theatre
23 - Graham Home
24 - Masonic Temple
25 - Stockton Savings Bank
26 - H Street Facade of Modesto HS
27 - Wissner Medical Office Bldg
28 - Elk's Lodge
29 - First Church of Christ Scientist
30 - Acacia Memorial Park
31 - Modesto Pioneer Cemetery
32 - Modesto Cemetery
33 - St. Stanislaus Catholic Cemetery
34 - Stanislaus County Cemetery (aka Potter's Field)
35 - Dr. Donald Robertson Home
36 - City's Christmas Tree
37 - The Stanley Home
38 - The John M. Walthall Home
39 - The Pacific Telephone
40 - The Gundlach Residence
41 - Lish Residence
42 - Guzman Residence
43 - Ayres Residence
44 - Harris Home
45 - Large Valley Oak Tree
46 - Bunya Bunya Tree
47 - Balmannos Residence
48 - Cadrett Residence
49 - Montrie & Robinson Residence
50 - Anderson Residence
51 - Scully Residence
52 - Municipal Golf Course
53 - Apartments ("Foy" Apartments)
54 - Centenary Methodist Church
55 - McDonald Residence ("Johnson House")
56 - Draizen Residence ("Dr. J.C. Robertson House")
57 - Lundgren House
58 - Silva House
59 - Vickery Residence ("Dr. J.K. "Doc" Ransom House")

Sources: Modesto General Plan 2019, Figure V-8-1.

Map date: October 17, 2024.

CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.5-1.

LANDMARK PRESERVATION SITES WITHIN THE CITY OF MODESTO

Legend

Landmark Sites

- Building
- Other
- Tree

- Road
- River

0 ¼ ½ Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This Page Intentionally Left Blank.

This section summarizes the City's geologic setting and describes how development associated with the UAGP would affect the potential exposure of new population and employees to earthquake and earthquake-related hazards, including liquefaction. It also addresses the potential effects of implementing the development envisioned in the UAGP on the extraction of mineral resources.

There were no comments received during the NOP comment period related to this environmental topic.

KEY TERMS

Earthquake activity is associated with several types of seismic hazards. The State of California divides these into primary seismic hazards (surface fault rupture and ground shaking) and secondary seismic hazards (liquefaction and other types of seismically induced ground failure, along with seismically induced landslides). Key terms are defined below.

Surface fault rupture. Surface fault rupture refers to rupture, breakage, or disruption at the ground surface that occurs because of movement (slip) along an active fault.

Ground shaking. Ground shaking results from the release of energy during an earthquake. Ground shaking is most intense at the earthquake epicenter; in general, ground shaking decreases with increasing distance from the epicenter. The nature of subsurface materials also influences the strength and duration of ground shaking in an earthquake.

The intensity of ground shaking in an earthquake can be described in terms of the Modified Mercalli Intensity Scale, which assigns a range of intensity values based on the observed effects of ground shaking on people, buildings, and the natural environment. The scale's intensities are denoted by Roman numerals ranging from I (shaking that is essentially imperceptible) to XII (total damage).

The "size" of an earthquake also can be described in terms of its *magnitude*. Commonly used scales for earthquake magnitude include Richter magnitude and moment magnitude. The Richter magnitude scale is based on the degree of ground motion experienced because of the first seismic waves to affect an area. The moment magnitude scale relies on an event's seismic moment, a measure of earthquake strength as a function of the extent (area) of fault rupture, the average displacement or slip on the ruptured surface, and the rigidity of the rock materials ruptured.

Liquefaction. Liquefaction is a phenomenon in which unconsolidated materials (soil or sediment) lose cohesion and behave as a liquid, typically because of earthquake shaking.

Liquefaction typically occurs in sandy materials that are saturated with groundwater and is restricted to the upper 50 feet below ground surface. Liquefaction poses a hazard to structures (hence to life and safety) because liquefied materials lose their strength and may become unable to support structures built on them. This can result in severe structural damage, particularly in poorly designed or constructed structures.

3.6.1 ENVIRONMENTAL SETTING

GEOLOGY OF THE STUDY AREA

Overview

Modesto is situated at the northern end of the San Joaquin Valley, a deep, structurally controlled trough that is bounded on the north by the Sacramento Valley, on the east by the Sierra Nevada, on the south by the San Emigdio and Tehachapi Mountains, and on the west by the Coast Ranges uplift.

The San Joaquin Valley is floored by a complexly layered sequence of sedimentary deposits that reaches an estimated thickness of 11,000 feet in the vicinity of Modesto. Under the eastern and central portions of the valley, the base of the sequence likely rests on Mesozoic crystalline rock allied to the plutons of the Sierra Nevada; to the west, basement rocks are believed to be mafic and ultramafic rocks of Jurassic age. These basement rocks are immediately overlain by marine and continental (nonmarine) sedimentary rocks of Cretaceous and Tertiary age consisting mainly of sandstone, sand, siltstone, and shale, which in turn are overlain by Quaternary (Pleistocene and Holocene) alluvial and fluvial deposits of sand, gravel, silt, and clay.

Modesto is situated primarily on alluvial fan deposits of Pleistocene age, but limited areas in the southeastern portion of Modesto are within the active floodplains of the Tuolumne River and Dry Creek and are underlain by younger (Holocene) alluvium. To the west of the City, the central portion of the Coast Ranges uplift is predominantly formed by exposed Franciscan Complex rocks of Jurassic through early Tertiary age. The range front to the west consists of a narrow belt of marine and nonmarine sedimentary rocks of post-Franciscan Tertiary age.

To the east of Modesto, the exposed ridges and slopes of the Sierra Nevada are composed primarily of Mesozoic and plutonic rocks, flanked along the valley margin by deeply dissected exposures of marine and nonmarine sedimentary rocks of Tertiary age.

Soils

Soils in the Modesto area range from hardpan soils on older alluvial fans and terraces to deep, highly fertile soils on younger alluvial fans. Four soil associations are mapped as occurring in the project area: the San Joaquin–Madera association, the Hanford-Tujunga association, the Modesto-Chualar association, and the Dinuba-Hanford association. Soils of the San Joaquin–Madera Association consist of hardpan soils on moderately old fans and terraces. These soils are typically well-drained sandy loams, loams, and clay loams with very slow permeability, slight erosion hazard, and very slow to slow runoff. Soils of the older Pleistocene fans and terraces are typically above the area's active drainages and are not subject to flooding or active alluvial deposition.

Soils of the Hanford-Tujunga association occur on young alluvial fans and in actively flooded bottomlands in the vicinity of the Stanislaus and Tuolumne Rivers. These soils consist of well-drained sandy loams and fine sandy loams and are characterized by moderately rapid to very rapid permeability, slight erosion hazard, and very slow runoff.

Soils of the Modesto-Chualar association are restricted to the outer margins of the Stanislaus River fan and the inter-fan areas between the Stanislaus and Tuolumne Rivers. These soils are generally moderately well-drained sandy to clay loams with very slow to slow permeability, slight erosion hazard, and very slow runoff.

The Dinuba-Hanford association comprises moderately deep to deep soils on fans of the Stanislaus and Tuolumne Rivers. These soils are generally imperfectly drained, moderately deep to deep sandy loams that exhibit a moderate permeability, slight erosion hazard, and very slow runoff.

Mineral Resources

Historic mineral production in Stanislaus County has included construction materials (sand and gravel), industrial minerals (diatomite, clay, mineral pigments, magnesite, quartz, and dimension stone), and metallic minerals (chromite, placer gold, manganese, mercury, platinum, and silver. However, the only mineral commodities that are mined actively in Stanislaus County are sand and gravel.

No areas classified as Mineral Resource Zones (MRZ-2a or MRZ-2b) under the Surface Mining and Reclamation Act—that is, areas where significant mineral deposits have been determined to exist—occur within the Planning Area (These classifications are described further in the *State Policies* section below). Modesto is entirely within an area zoned MRZ- 3a for sand and gravel. This designation indicates areas containing known mineral occurrences of undetermined significance. As recently as 1998, there were five active sand and gravel operations and one specialty sand mining operation in Modesto. However, no mining activity occurs in Modesto, and data from the U.S. Geological Survey regarding mineral production in California indicate that no new mines or expansions of existing mines were approved in Modesto between 1999 and 2006.

Landslides and Erosion

Historically, landslides in Stanislaus County have occurred primarily in the Diablo Range in the western portion of the county, where steep slopes and unstable geologic conditions have presented a substantial limitation to development. By contrast, the regional slope in the vicinity of Modesto is on the order of 0.001 vertical foot of change per foot of horizontal distance (0.1% slope). Local slopes may approach 8% in areas where former sand dunes are located. Because the planning area is generally level, it is not subject to landslides.

As discussed above, the soils in the planning area typically have a slight erosion potential, and the overall erosion hazard in Modesto is considered low. However, wind or rain may cause erosion when soils are exposed during construction activities and when fields are left fallow. Erosion also may occur along streams or rivers during storm events, resulting in locally significant bank failures if the banks are not stabilized. Streambank erosion is restricted to areas immediately adjacent to the Stanislaus River, Tuolumne River, and Dry Creek and typically is not considered a significant problem in Modesto because of control of discharge in the upper reaches of the rivers, stabilization of banks, and restrictions on construction in their vicinity.

Expansive Soils

Expansive soils are those that contain a substantial proportion of clay minerals that swell under wet conditions and shrink under dry conditions. Expansion and contraction because of wetting and drying has the potential to damage improperly designed or constructed facilities, including foundations, freestanding structures, pavement, and concrete slabs.

Information on the engineering properties of soils in Modesto is not readily available, but where soils are clay-rich, there may be some potential for expansive soils. Concerns related to development on expansive soils typically can be addressed through appropriate design. As discussed in the *Significant Direct Impacts* section below, impacts related to the location of new development on expansive soils within the planning area would be assessed through the City's development review process, and mitigated through conformance with the most recent California Building Code (Title 24 California Code of Regulations [CCR]) standards and requirements for site-specific geotechnical studies.

Seismic Hazards

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 3.6-1 represents effects that would be commonly associated with Richter Magnitudes.

TABLE 3.6-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	*EFFECTS*
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE PROGRAM.

PRIMARY SEISMIC HAZARDS—SURFACE FAULT RUPTURE AND GROUNDSHAKING

No faults in the Modesto area are recognized as active by the State of California and zoned pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act, defined further under *State Policies* below), nor is the Modesto area traversed by any faults recognized by the Uniform Building Code (UBC) as active.

The only active fault reported in Stanislaus County is the Tesla-Ortigalita fault, which is located approximately 20 miles west of Modesto. Based on geomorphic evidence and results of trench studies, the Ortigalita fault is believed to experience right-lateral strike-slip motion and is likely capable of generating earthquakes with a Richter scale magnitude of 6.5 to 6.75. The recurrence interval for large magnitude events on the Ortigalita is inferred to be 2,000–5,000 years on the fault as a whole and 10,000– 25,000 years on individual fault segments (see Table V-17-1). The UBC (International Conference of Building Officials 1997) characterizes the Ortigalita fault as a Type B seismic source. The UBC evaluates the risk associated with active faults based on their potential to generate large earthquakes (measured as the moment magnitude for the largest earthquake anticipated on the fault) and their degree of seismic activity (measured as average annual slip rate). Under this system, a Type A seismic source is a fault that can produce large-magnitude events (> M 7.0) and is highly active (has a high average annual slip rate). A Type B seismic source is associated with smaller maximum events and/or is less active but still constitutes a substantial seismic threat. It is not known to experience fault creep.

Other active faults in the surrounding region include: the Greenville fault, located approximately 35 miles northwest of Modesto; the Calaveras and Concord faults, approximately 50 miles west of Modesto; the Hayward fault, about 60 miles to the west; and, the San Andreas fault, approximately 75 miles west.

Based on information furnished by the Department of Mines and Geology (now the California Geological Survey) and the Office of Emergency Services, earthquakes typical of surrounding-area faults can produce ground shaking to an intensity of VI or VII on the Modified Mercalli Intensity Scale (Stanislaus County 1987). Based on this scale, slight structural damage would occur because of an intensity-VI earthquake. Damage from an intensity-VII earthquake would be negligible in buildings of good construction and design, slight to moderate in well-built ordinary structures, and considerable in poorly built or badly designed structures.

TABLE 3.6-2. MAXIMUM CREDIBLE EARTHQUAKE AND UBC SEISMIC SOURCE TYPE FOR PRINCIPAL ACTIVE FAULTS IN THE REGION SURROUNDING PLANNING AREA

Fault	Magnitude of Maximum Credible Earthquake	UBC Seismic Source Type
Ortigalita	6.5-6.75[b], 6.9[a]	B [a]
San Andreas	7.0-7.9 [a]	A [a]
Hayward	Entire Fault: 7.1 [a]. Southern Segment: 6.5 [a]	A [a]
Calaveras (Southern)	6.2 [a]	B [a]
Greenville	6.9 [a]	B [a]
Concord-Green Valley	6.9 [a]	B [a]

[A] *SOURCE: INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS 1997.*

[B] *SOURCE: ANDERSON ET AL. 1982.*

SECONDARY SEISMIC HAZARDS—LIQUEFACTION AND GROUND FAILURE

The potential for liquefaction to occur in the Modesto area has not yet been evaluated by the State of California under the Seismic Hazards Mapping Act. However, much of the substrate in the planning area consists of young, unconsolidated alluvial and fluvial (river) deposits, and groundwater data from wells in Modesto show the depth to groundwater as ranging from approximately 11.7 to 62.5 feet. Such soil and groundwater conditions may present a liquefaction hazard in portions of the planning area.

Mineral Resources

Historic mineral production in Stanislaus County has included construction materials (sand and gravel), industrial minerals (diatomite, clay, mineral pigments, magnesite, quartz, and dimension stone), and metallic minerals (chromite, placer gold, manganese, mercury, platinum, and silver). However, the only mineral commodities that are mined actively in Stanislaus County are sand and gravel.

No areas classified as Mineral Resource Zones (MRZ-2a or MRZ-2b) under the Surface Mining and Reclamation Act—that is, areas where significant mineral deposits have been determined to exist—occur within the Planning Area. Modesto is entirely within an area zoned MRZ- 3a for sand and gravel (California Department of Conservation, Division of Mines and Geology, 1993). This designation indicates areas containing known mineral occurrences of undetermined significance. As recently as 1998, there were five active sand and gravel operations and one specialty sand mining operation in Modesto (California Department of Conservation, Division of Mines and Geology, 1999). However, no mining activity occurs in Modesto, and data from the U.S. Geological Survey regarding mineral production in California indicate that no new mines or expansions of existing mines were approved in Modesto between 1999 and 2006 (Kohler 2005, 2006; U.S. Geological Survey 1999, 2000, 2001, 2002, 2003, 2004).

3.6.2 REGULATORY SETTING

FEDERAL

Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) provides emergency relief to victims of natural disasters such as earthquakes and landslides. However, FEMA has not established federal regulations that relate to geologic hazard abatement or limit geologic hazard liabilities.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC, 7701 et seq.) requires the establishment of maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for (federal, federally assisted or federally regulated new building construction" and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code (IBC)

The purpose of the International Building Code (IBC) is to provide minimum standards to preserve he public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standard address foundation design, shear wall strength, and other structurally related conditions.

STATE

Alquist-Priolo Act

California's Alquist-Priolo Act (Public Resources Code [PRC] Section 2621 et seq.) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during the Holocene time (defined for purposes of the Alquist-Priolo Act as referring to approximately the last 11,000 years). A fault is considered well defined if its trace can be identified clearly by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment.

Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 directs the state to identify and map areas subject to earthquake hazards such as liquefaction, earthquake-induced landslides, and amplified ground shaking. Pursuant to this act, cities and counties are prohibited from issuing development permits for sites within seismic hazard zones until appropriate site-specific geologic or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans. Seismic hazard mapping has been prioritized to address coastal urban areas first, so no maps are currently available for Modesto's planning area.

Surface Mining and Reclamation Act of 1975 (SMARA)

The Surface Mining and Reclamation Act of 1975 (SMARA) was enacted in response to land use conflicts between urban growth and essential mineral production. It requires the California Geological Survey (formerly the California Division of Mines and Geology) to classify California lands into MRZs. The MRZ classifications are defined as follows.

- MRZ-1: areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2: areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- MRZ-3: areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4: areas where available information is inadequate for assignment into any other MRZ.

Based on the MRZ zoning system, SMARA creates a framework for local government to consider the impacts of new development on the availability of mineral resources.

Government Code Section 65560 requires a general plan's open space element to protect "major mineral deposits."

California Building Code

The California Building Code (24 CCR) is adopted and regularly updated by the California Building Standards Commission. The 2016 edition took effect on January 1, 2017. The Commission is established under the California Building Standards Law (Health and Safety Code Sections 18901–18949.6) to adopt and publish a standardized set of building codes. These building codes serve as the comprehensive standards for the design and construction of buildings in California and include (among other things) provisions for seismic safety, foundation stability, and energy conservation.

The California Building Code is based on the UBC, a model code adopted by the International Conference of Building Officials (International Conference of Building Officials 1997). The UBC classifies seismic risk zones ranging from 0 to 4, with building standards increasing in stringency accordingly. The California Building Code includes additional requirements beyond the UBC because of the state's history of seismic activity. The California Building Code provides that a geologic engineering report is required of all construction except for one-story wood frame or light steel frame buildings of 4,000 square feet or smaller that are located outside seismic hazard zones.

Hospitals and other medical facilities with surgery or emergency treatment areas that are needed for emergency purposes must upgrade to state seismic safety standards under the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983. Enforcement of this program is the responsibility of the Office of Statewide Health Planning and Development. (Health and Safety Code Section 129675 et seq.)

School facilities are required to meet special seismic safety standards under the "Field Act" and are not subject to local building standards. Enforcement of this program is the responsibility of the California Department of General Services, Division of the State Architect.

California Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stressed produced by phenomena such as strong winds and earthquakes.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practices seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SCD has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make-up Caltrans' seismic design.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The MDG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Modesto Urban Area General Plan

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as GSM-*X,* where *X* is the discrete number).

GSM-1: Continue to use building codes as the primary tool for reducing seismic risk in structures. The current version of the California Building Code, as adopted by the City of Modesto, is intended to ensure that buildings resist major earthquakes of the intensity or severity of the strongest experience in California, without collapse, but with some structural as well as nonstructural damage. In most structures, it is expected that structural damage could be limited to repairable damage, even in a major earthquake. (UAGP Policy VII.K[a])

GSM-2: Require all new buildings in the City to be built to the seismic requirements of the current adopted California Building Code. (UAGP Policy VII.K[b])

GSM-3: Continue to explore measures to induce building owners to upgrade and retrofit structures to render them seismically safe. (UAGP Policy VII.K[c])

GSM-4: Enforce provisions of the Alquist-Priolo Earthquake Fault Zoning Act. (UAGP Policy VII.K[d])

GSM-5: Any construction that occurs as a result of the General Plan must conform to the current California Building Code regulations, which address seismic safety of new structures and slope requirements. As appropriate, require a geotechnical analysis prior to tentative map approval in order to ascertain site-specific subsurface information necessary to estimate foundation conditions. These geotechnical studies should reference and make use of the most recent regional geologic maps available from the California Department of Conservation Division of Mines and Geology. (UAGP Policy VII.N[a])

GSM-6: Discourage development on lands that are subject to landslides. (UAGP Policy VII.N[b])

GSM-7: New public roads in areas subject to landslides should be designed to minimize landslide risks. (UAGP Policy VII.N[c])

GSM-8: All building permits should be reviewed to ensure compliance with the current adopted edition of the California Fire Code, California Building Code, California Mechanical Code, California Electrical Code, California Plumbing Code, Title 19, Title 24, and the City of Modesto Municipal Code. (UAGP Policy VII.N[d])

GSM-9: Include "best management practices" in the erosion control program, as appropriate, given the specific circumstances of the site and/or project. Table 9-2 in the Program Environmental Impact Report presents examples of best management practices. (UAGP Policy VII.N.[f])

GSM-10: Design sediment control basins to capture eroded sediments and contain them on the project sites shall be designed consistent with the criteria outlined in Table 9-3 in the Program Environmental Impact Report. (UAGP Policy VII.N[g])

GSM-11: Promote public awareness of the following local routes for the public's use in evacuating the City in the event of an emergency.

1. State Highways 99, 132, 219, and 108
2. Briggsmore Avenue
3. Claus Road
4. Standiford/Sylvan Avenue
5. Scenic Drive
6. Pelandale Avenue
7. Ninth Street
8. Paradise Road
9. Carpenter Road (UAGP Policy VII.N[h])

GSM-12: City plans and policies shall not interfere with any emergency evacuation and response plans. This would include the continued maintenance of adequate police and fire services, and identified emergency evacuation routes (UAGP Figure VII-3). (UAGP Policy VII.N[i])

GSM-13: Ensure the provision of adequate and accessible evacuation routes. (UAGP Policy VII.N[j])

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-13. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

City of Modesto Municipal Code

The City has adopted the California Building Code, as have Stanislaus County (the County) and numerous other cities within the county. Portions of the California Building Code and UBC that have been adopted by the City and that are particularly relevant to geology and geologic hazards include California Building Code Chapter 16, Division IV (Structural Design Requirements—Earthquake Design), and Chapter 33 (Site Work, Demolition, and Grading), in addition to Appendix Chapter 33 (Excavation and Grading).

Stanislaus County, including Modesto, is within the UBC Seismic Zone 3; accordingly, any future development in the planning area is required to comply with all UBC Seismic Zone 3 design standards.

The City's Grading and Erosion Control Ordinance (Section 5-10.301 et seq., Modesto Municipal Code) requires a grading and erosion control permit before any grading may occur that involves 350 cubic yards of soil or clears more than 0.5 acre of land. The City can condition issuance of a permit to ensure that grading does not result in erosion or a release of soil off the site. Erosion is controlled further through the City's "Erosion and Sediment control Standards for Construction Activities" adopted as part of the City's National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board (RWQCB). This establishes best management practices (BMPs) to avoid erosion.

Stanislaus County General Plan

CHAPTER 3. CONSERVATION/OPEN SPACE ELEMENT

Goal 9: Manage Extractive mineral resources to endure an adequate supply without degradation of the environment.

> **Policy 26**: Surface mining in areas classified by the State Division of Mines and Geology as having significant deposits of extractive mineral resources shall be encouraged.
>
> **Policy 27**: The County shall emphasize the conservation and development of lands having significant deposits of extractive mineral resources by not permitting uses that threaten the potential to extract the minerals.

CHAPTER 5. SAFETY ELEMENT

Goal One: Prevent loss of life and reduce property damage as a result of natural disasters.

Policy 1: The County will adopt (and implement as necessary) plans inclusive of the Multi-Jurisdictional Hazard Mitigation Plan, to minimize the impacts of a natural and man-made disasters.

Policy Three: Development should not be allowed in areas that are particularly susceptible to seismic hazard.

Policy Four: Development west of I-5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.

Policy Five: Stanislaus County shall support efforts to identify and rehabilitate structures that are not earthquake resistant.

Goal Two: Minimize the effects of hazardous conditions that might cause loss of life and property.

Policy Six: All new development shall be designed to reduce safety and health hazards.

Policy Thirteen: The Department of Environmental Resources shall continue to coordinate efforts to identify locations of hazardous materials and prepare and implement plans for management of spilled hazardous materials as required.

Policy Fourteen: The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the California Building Code, the International Property Maintenance Code, the California Fire Code, the California Plumbing Code, California Electric Code, and Title 24, Parts 1-9.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following information is provided in accordance with State CEQA Guidelines Section 15126.2.

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil;

- 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;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- 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; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Additionally, consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on with mineral resources if it would:

- 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; or
- 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.

IMPACTS AND MITIGATION MEASURES

The general level of risk related to seismic activity, soil conditions, and the loss of mineral resource availability is similar throughout the Modesto area, and approaches to avoid and mitigate impacts related to these conditions are also very similar regardless of the location within the city.

Therefore, significant direct impacts are not discussed specifically in terms of the City's Baseline Developed Area, Downtown Area, or Planned Urbanizing Area, but rather are evaluated based on the entire UAGP planning area.

Impact 3.6-1: Potential to expose people or 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, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

No faults known to be active or zoned as active by the State of California under the Alquist- Priolo Act are within the Modesto planning area. Consequently, the risk of surface fault rupture in Modesto is considered low, and related impacts currently are identified as less- than-significant. Nonetheless, policies GSM-1 through GSM-6 and GSM-10 commit the City to enforcing building standards and carrying out its enforcement responsibilities under the Alquist-Priolo Act. With this commitment in place, risks to new development and redevelopment under the updated UAGP because of surface fault rupture are also expected to be less than significant, even if active faulting is identified within the UAGP at some future time. No mitigation would be required.

The planning area very likely will be subject to ground shaking because of earthquake activity on faults in the region, and there is some potential for significant impacts related to structural damage

and concomitant hazards to safety and life. However, City policies GSM-1 through GSM-6 require all new structures to be designed and constructed to meet or exceed relevant building code requirements. Additional code compliance requirements specific to critical facilities (e.g., hospitals and schools) are established under state law and are administered by the state. Finally, where appropriate, the City will require the preparation of site-specific geotechnical investigations as a condition of subdivision approval and will hold the project proponent responsible for implementing the recommendations of the geotechnical investigation (policy GSM-6). Although there would be some residual risk, in any seismically active area, residual impacts are considered less than significant with these policies in place. No additional mitigation would be required.

Because topography in the planning area is not hilly, the risk of seismically induced landsliding is considered low. However, the planning area may be at some risk related to liquefaction and other types of seismically induced ground failure. Much of the substrate in the planning area consists of young, unconsolidated alluvial and fluvial (river) deposits. In addition, depth to groundwater in the planning area ranges from approximately 11.7 feet to 62.5 feet, based on measurements taken in November 2006 (California Department of Water Resources 2007b). Therefore, conditions exist in the planning area that could result in seismic-related ground failure such as liquefaction, lateral spreading (lurching), and differential settlement, any of which could result in structural damage, potentially exposing people to a substantial risk of injury or death. However, the City has committed, through policy GSM-5, to require a site-specific geotechnical investigation for larger residential and remodel projects located in parts of the City potentially prone to liquefaction. With these provisions in place, impacts related to liquefaction hazard would be reduced, consistent with the prevailing standard of care in the state, and any residual impact would be considered ***less than significant***. No mitigation is required.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, but it will increase the population density in the areas that are developed. While there would be more population density within areas planned for development, the density change would not increase the risk of earthquake faults, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. All buildings and infrastructure would continue to be designed and constructed in accordance with seismic design standards established by the State to minimize seismic risks, and any residual impact would be considered ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-13. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

Impact 3.6-2: Potential to result in substantial soil erosion or the loss of topsoil (Less than Significant)

Information about the properties of soils in Modesto is detailed in the USDA Soil Survey. Generally, where soils are clay-rich, there may be some potential for expansive soils. Impacts related to the location of new development on expansive soils within the Modesto planning area would be assessed through the City's development review process and mitigated through policy GSM-1, which requires conformance with the most recent UBC standards; and policy GSM- 6, which requires the preparation of site-specific geotechnical studies for new subdivisions. Compliance with these policies, including specific design considerations based on soil properties, impacts related to expansive soils would be reduced substantially, and any residual impact would be considered less than significant.

Earthwork activities associated with the development of the Modesto planning area could result in a loss of topsoil resources during site grading. Potential loss of topsoil resources would be minimized through policies GSM-9 and GSM-10. Conformance to these policies, which call for implementation of industry-standard best practices relative to erosion control and sediment containment, would minimize the potential for loss of topsoil due to grading and other earthwork activities, reducing related impacts to a less than significant level. No mitigation would be required. The erosion hazard for soils in the Modesto planning area is generally considered slight. However, activities required for construction, including vegetation removal, excavation, grading, and fill placement have the potential to cause accelerated soil erosion. Standard City requirements are sufficient to avoid such erosion. (Rivera pers. comm.) Preparation of an erosion control program consistent with applicable requirements of the federal Clean Water Act and the City's Grading and Erosion Control Ordinance and "Erosion and Sediment Control Standards for Construction Activities" are examples of the standard City requirements that would ensure any adverse impacts related to accelerated construction site erosion and associated siltation increases would be contained to a less than significant level. No mitigation would be required.

Although the Modesto area is not generally subject to landslides, localized slope failure in the planning area could occur if cut slopes and fill embankments created during new project construction are improperly designed and implemented. Potential geotechnical hazards associated with cut and fill activities would be minimized through policies GSM-1, GSM-4, GSM-7, and GSM-8, which require conformance to the most recent UBC standards and avoidance of landslide areas. Conformance to these policies and adherence to good grading and excavation practices would minimize the potential for failure of cut slopes and fill embankments, reducing related impacts to a ***less than significant*** level. No mitigation would be required.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, and it would not cause any direct physical changes related to

soil erosion or the loss of topsoil, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-10. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

Impact 3.6-3: Potential to result in development 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)

This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below. As future development and infrastructure projects are considered by the City of Modesto, each project will be evaluated for conformance with existing policies. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of the State and City codes. The General Plan includes policies and actions to ensure that development projects address potential geologic hazards, at-risk buildings and infrastructure is evaluated for potential risks, and site-specific studies are completed for area subject to liquefaction. With the implementation of the policies and actions in the General Plan, as well as applicable State and City codes, potential impacts associated with ground instability or failure would be ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, and it would not cause any direct physical changes related to the potential for on- or off-site landslides, lateral spreading, subsidence, or liquefaction of collapse, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-10. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

Impact 3.6-4: Potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property (Less than Significant)

Information about the engineering properties of soils in Modesto is not readily available, but where soils are clay-rich, there may be some potential for expansive soils. Impacts related to the location of new development on expansive soils within the Modesto planning area would be assessed through the City's development review process and mitigated through policy GSM-1, which requires conformance with the most recent UBC standards; and policy GSM- 6, which requires the preparation of site-specific geotechnical studies for new subdivisions. With these policies and their outcomes in place, impacts related to expansive soils would be reduced substantially, and any residual impact would be considered ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, and it would not cause any direct physical changes related to development on expansive soil that could create substantial direct or indirect risks to life or property, therefore, it would not change the previous impact determination of ***less than significant.***

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-10. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

Impact 3.6-5: General Plan implementation does not have the potential to 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)

Wastewater service is provided by the City of Modesto via their network of collection infrastructure. All new wastewater generated from General Plan land uses will be collected and transmitted to the WQCF for treatment. There will be no septic tanks or alternative wastewater disposal systems utilized for new development planned under the General Plan. Therefore, this impact is considered ***less than significant*** and no mitigation is required.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density change would not cause any direct physical changes related to the use of septic tanks or alternative waste water disposal systems

where sewers are not available for the disposal of waste water, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-10. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

Impact 3.6-6: Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant)

The Modesto planning area has been classified by the California State Geologist as MRZ-3a for sand and gravel resources. This designation indicates the presence of resources of unknown significance. In the absence of major mineral resources, the UAGP would not result in a significant loss, and no mitigation is required. Impacts would ***be less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density change would not cause any direct physical changes related to the direct or indirect destruction of a unique paleontological resource or unique geologic feature; therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area. Policies GSM-1 through GSM-10 provide guidance for proper construction practices that would ensure protection of unique geologic features. Policies relating to the direct or indirect destruction of paleontological resources can be found in Chapter 3.5 Cultural Resources. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities."

Impact 3.6-7: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (Less than Significant)

The Modesto Planning Area has been classified by the California State Geologist as MRZ-3a for sand and gravel resources. This designation indicates the presence of resources of unknown significance.

There are no other known mineral deposits or resources within the Modesto Planning Area that are of significant value to the region or the state. In the absence of major mineral resources, the UAGP would not result in a significant loss, and no mitigation is required. Impacts to this topic would be ***less than significant***.

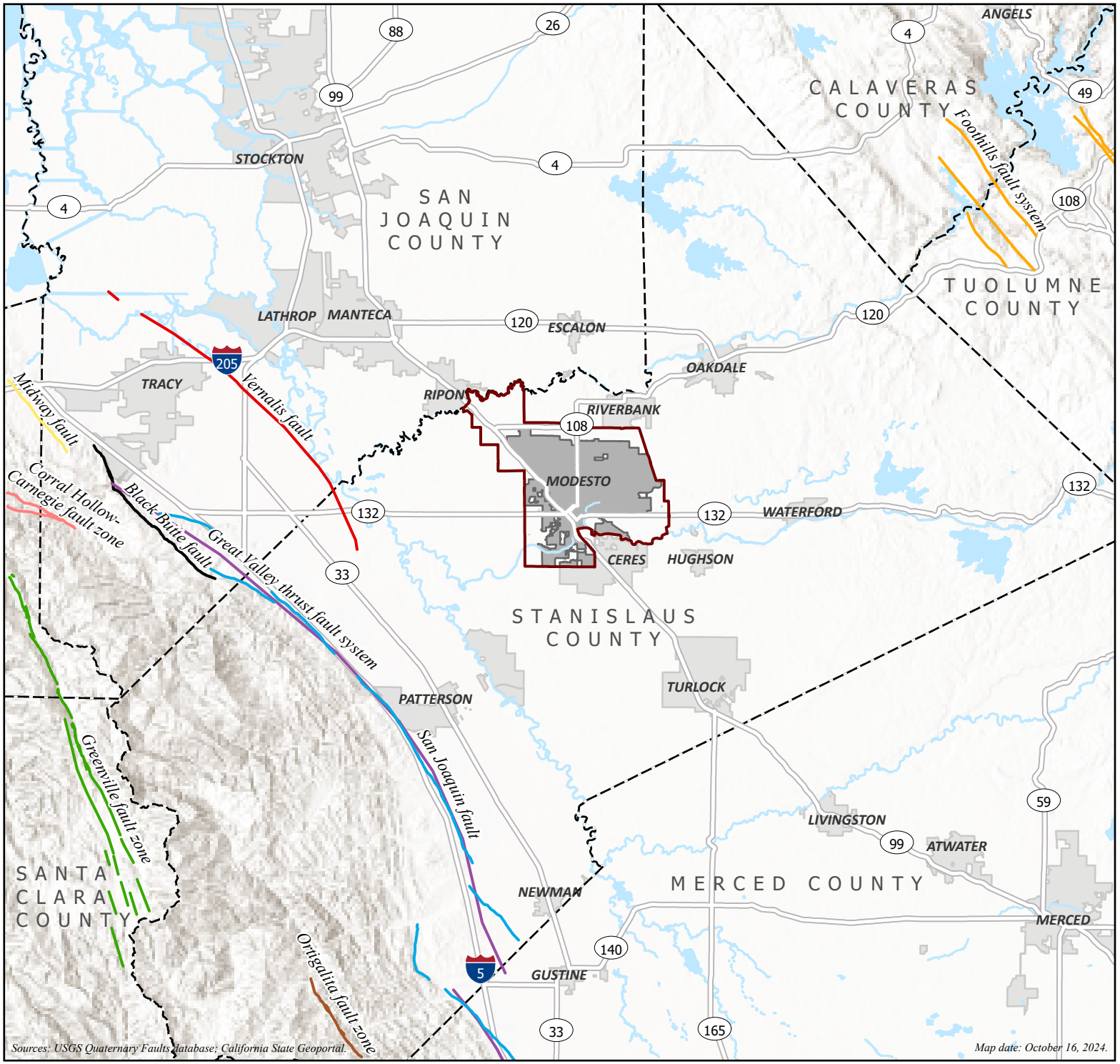
PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density change would not cause any direct physical changes related to mineral resources; therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area. Policies GSM-1 through GSM-10 provide guidance for proper construction practices that would ensure protection of unique geologic features.

This page intentionally left blank.



Sources: USGS Quaternary Faults database; California State Geoportal.

Map date: October 16, 2024.

CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.6-1.

EARTHQUAKE FAULTS MAP

Legend

- City of Modesto
- General Plan Planning Area
- County Area
- Other Incorporated Areas

Quaternary Fault

- Black Butte fault
- Corral Hollow-Carnegie fault zone
- Foothills fault system
- Great Valley thrust fault system
- Greenville fault zone
- Midway fault
- Ortigalita fault zone
- San Joaquin fault
- Vernalis fault

0 5 10
Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.

This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from implementation of the General Plan. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section also provides background discussion on energy use in Modesto. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

Emissions of GHGs have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change; however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

One comment was received during the NOP comment period regarding this environmental topic, from the San Joaquin Air Pollution Control District (SJVAPCD) on October 25, 2024.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 47, 156, and 23 percent, respectively (IPCC, 2023).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2023).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 369 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2022 (California Air Resources Board, 2024).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for 38% of total GHG emissions in the State. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture and forestry sector (9%), the residential energy consumption sector (8%), and the commercial energy consumption sector (6%) (California Air Resources Board, 2023).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature because of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitats.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion, and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions

scenarios of the Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG 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 snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as

large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for several of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation through decreases in precipitation, thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as

60% to 80% by the end of the century because of increasing temperatures. The productivity of the State's forests is also expected to decrease because of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2023, California's per capita energy usage was ranked fourth-lowest in the nation.[1] California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and a very small amount of nuclear generation resources. In 2020, nearly one-half of the electricity supply came from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. Energy Information Administration, 2022). In 2020, approximately 41 percent of California's utility-scale net electricity generation (i.e. the electricity generated by facilities in-state) was fueled by natural gas. In addition, about 48 percent of the State's utility-scale net electricity generation came from renewable sources, such as solar, wind, geothermal,

[1] See: https://www.eia.gov/state/print.php?sid=CA

hydropower, and biomass. Nuclear energy powered an additional 11 percent. The amount of electricity generated from coal generated by facilities in-state was effectively zero (U.S. Energy Information Administration, 2022). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. Energy Information Administration, 2023b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2022, the latest year for which data is available, statewide consumption was 277,205 GWh (California Energy Commission, 2024). Separately, in 2022, electricity consumption in Stanislaus County was 5,245 GWh (California Energy Commission, 2023).[2]

PG&E is a publicly traded utility company that, under contract with the California Public Utilities Commission (CPUC), generates, purchases, and distributes energy. PG&E's service area covers 70,000 square miles, roughly extending north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.

PG&E's electricity is generated from a combination of traditional sources, such as coal-fired plants, nuclear power plants, and hydroelectric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, or "solar farms." "The grid," or bulk electric grid, is a network of high-voltage transmission lines that link power plants to the PG&E system. The distribution system, comprising lower-voltage secondary lines, is at the street and neighborhood level. It consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to individual customers.

In addition to its base plan, PG&E has three plan options, known as Solar Choice options and Green Saver, which give customers the option of purchasing energy from solar resources. The first Solar Choice option provides up to 50 percent of a customer's energy from solar resources, while the other option provides up to 100 percent of a customer's energy from solar resources, and the Green Saver option provides up to 90 percent of a customer's energy from solar resources.

Table 3.7-1 outlines PG&E's power mix in 2022, compared to the power mix for the state. The table identifies the renewable and non-renewable energy sources for PG&E. It should be noted that some GHG free sources are not considered renewable (e.g., nuclear is GHG free but not renewable).

[2] See: https://ecdms.energy.ca.gov/elecbycounty.aspx

TABLE 3.7-1: PG&E AND THE STATE OF CALIFORNIA POWER MIX IN 2022

ENERGY RESOURCES	*CALIFORNIA POWER MIX 2022*
Overall Eligible Renewable	**35.8%**
Biomass and Biowaste	2.1%
Geothermal	4.7%
Eligible hydroelectric	1.1%
Solar	17.0%
Wind	10.8%
Coal	2.1%
Large Hydroelectric	9.2%
Natural Gas	36.4%
Nuclear	9.2%
Other (Waste Petroleum/Petroleum Coke)	0.1%
Unspecified[A]	7.1%

SOURCE: PG&E. 2023. 2022 POWER CONTENT LABEL. AVAILABLE: HTTPS://WWW.PGE.COM/CONTENT/DAM/PGE/DOCS/ACCOUNT/BILLING-AND-ASSISTANCE/POWER-CONTENT-LABEL.PDF. ACCESSED: OCTOBER 4, 2024.

[A]ELECTRICITY FROM TRANSACTIONS THAT ARE NOT TRACEABLE TO SPECIFIC GENERATION SOURCES ARE CLASSIFIED AS UNSPECIFIED SOURCES OF POWER.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). PG&E is the largest publicly-traded utility in California and provides natural gas for residential, industrial, and agency consumers within the Stanislaus County area. PG&E's natural gas (i.e., methane) delivery system includes 42,000 miles of natural gas distribution pipelines and 6,700 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from the

fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.

As of March 2022, California produced 11.4 billion cubic feet of natural gas per month (U.S. EIA, 2022). In 2022, natural gas consumption in Stanislaus County was approximately 203 million therms (California Energy Commission, 2023). Residential natural gas consumption accounted for approximately 62 million therms.[3]

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC §§ 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether emissions of GHGs 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. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs 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 GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

[3] See: https://ecdms.energy.ca.gov/gasbycounty.aspx

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and California Air Resources Board (CARB), the United States Environmental Protection Agency (USEPA) developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The 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 United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), 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 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. 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 determined based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR," "Climate Leaders," and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Saf. Code, § 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs the California Air Resources Board (CARB)

to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

Effective January 1, 2017, SB 32 (Stats. 2016, ch. 249) added a new section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Saf. Code, § 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In April 2015, Governor Brown issued another Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In September 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In the 2015 legislative session, the Legislature passed Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed in more detail below). This legislation added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that

"[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In September 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, § 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].) As described in the Legislative Counsel's Digest, Senate Bill 1078 required "[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources each year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In September 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].)

In April 2011, the Legislature, in a special session, enacted Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1), which set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, § 399.11 et seq. [subsequently amended].)

In 2015, the Legislature enacted Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed above). It increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, § 399.11, subd (a); see also § 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

In March 2012, Governor Brown had issued an Executive Order, B-16-12, which embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed the State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, the Legislature enacted, and the Governor signed, Senate Bill 100 (Stats. 2018, ch. 312), which revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the year 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficiently allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. Several statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In July 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health & Saf. Code, § 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, §§ 1900, 1961, and 1961.1 et seq.)

In January 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, §§ 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Electric Car Mandate

The transportation sector, including all passenger cars and light trucks, heavy-duty trucks, off-road vehicles, and the fuels needed to power them, is responsible for more than half of California's greenhouse gas emissions. In 2020, Governor Newsom issued an Executive Order, N-79-20, which calls for the elimination of new internal combustion passenger vehicles by 2035. Existing vehicles that run on fossil fuel would be allowed to keep operating. The executive order will not prevent Californians from owning gasoline-powered cars or selling them on the used car market.

Innovative Clean Transit Rules for Public Transportation

The Innovative Clean Transit Regulation is the first of its kind to support these programs. It was adopted in December 2018 to replace the Fleet Rule for Transit Agencies. The regulation requires all public transit agencies to gradually transition to a 100-percent zero-emission bus fleet and encourages them to provide innovative first and last-mile connectivity and improved mobility for transit riders.

Through the deployment of zero-emission technologies, the ICT regulation will provide significant benefits across the state, including:

- Reduce NOx and GHG emissions for all Californians, especially transit-dependent and disadvantaged communities. Most of these benefits will be in the State's most populated and impacted areas where transit buses are most prevalent
- Increase penetration of the first wave of zero-emission heavy-duty technologies into applications that are well suited to their use to further achieve emission reduction benefits
- Save energy and reduce dependency on petroleum and other fossil fuels
- Expand zero-emission vehicle industry to bring high quality green jobs to local communities and trained workforce to California
- Provide other societal benefits by encouraging improved mobility and connectivity with zero-emission transportation modes and reduced growth in light-duty vehicle miles traveled.

Cap and Trade Program

On October 20, 2011, in a related action, CARB adopted the final cap-and-trade program for California. (See California Code of Regulations, Title 17, §§ 95801-96022.) The California cap-and-trade program has created a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 guidance published by CARB, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO2e), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement

production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 $MTCO_2e$ per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

In early 2017, the Legislature enacted, and the Governor signed, AB 398 (Stats. 2017, ch. 135), which extended the life of the existing Cap and Trade Program through December 2030.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for the years 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

2022 SCOPING PLAN UPDATE

In accordance with AB 32, the CARB developed the first Scoping Plan in 2008 to outline the State's strategy to achieve 1990 level emissions by year 2020. In May 2014, the CARB released and adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. A newer version of the Scoping Plan was then adopted by the CARB in December 2017 (entitled *California's 2017 Climate Change Scoping Plan*). The most recent version of the Scoping Plan was adopted by the CARB in November 2022 (entitled *Final 2022 Scoping Plan for Achieving Carbon Neutrality*) (2022 Scoping Plan), which was designed consistent with the long-term GHG reduction targets embedded in AB 1279. Since adoption of the 2008 Scoping Plan and the subsequent updates in 2014, 2017, and 2022, State agencies have adopted programs identified in the plan, and the Legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Building Standards (e.g., CALGreen and the 2022 Building

and Energy Efficiency Standards), zero carbon electricity by 2045, and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars).

SB 605 AND SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (Reduction Strategy) in March 2017. The Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

ASSEMBLY BILL 1757

AB 1757 (September 2022) requires the California Natural Resources Agency (CNRA) to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (CCR Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

The most recent Title 24 standards are the 2022 Title 24 standards. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. The California Energy Commission updates the standards every three years. The CEC estimates that the 2022 Title 24 standards will reduce 10 million metric tons of GHG over 30 years. When compared to the 2019 Title 24 standards, the 2022 update focuses on: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic (PV) system and battery storage standards; and strengthening ventilation standards to improve indoor air quality.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (CalGreen) (CCR Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the

following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. CalGreen, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- Tier II: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

The latest version of CalGreen is the 2022 CalGreen Code, which became effective on January 1, 2023. Between 2010 and 2022, continuous updates and additions have been made to CALGreen, including water conservation and recycling, electric vehicle infrastructure and charging, and changes intended to eliminate conflicts with the California Energy Code, which is Part 6 of Title 24.

TITLE 20

CCR Title 20 requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SOLID WASTE

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal (CalRecycle, 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses subject to the law decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

REGIONAL

PG&E adopted the 2020 Integrated Resource Plan (IRP) on September 1, 2020, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area while fulfilling regulatory requirements. The IRP contains the following objectives that are relevant to the Project:

- Clean Energy: In 2021, PG&E delivered nearly 50 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. In addition, PG&E's GHG-free energy production, which encompasses renewable resources, large hydropower, and nuclear, satisfied all PG&E's bundled retail sales in 2021.
- Reliability: PG&E's IRP analysis includes PG&E's contribution to system and local reliability, in compliance with the CPUC's resource adequacy requirements, especially as California transitions toward higher shares of GHG-free generation resources.

Affordability: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals and provides a system average rate forecast in compliance with the CPUC's requirements for investor-owned utilities.

LOCAL

City of Modesto Urban Area General Plan

The following goals and policies would be contained in the UAGP to assist in promoting reductions in GHGs, energy efficiency, and renewable energy, consistent with federal, state, and local standards and regulations in the General Plan area.

LAND USE ELEMENT GOALS AND POLICIES

AQ-1: Maintain and improve the integrity of the existing developed City, and promote complete, sustainable, compatible and high-quality development – for living, working, shopping and recreation – across the entire city. (Goal III.B)

AQ-2. Facilitate infill development through active leadership and strategic provision of infrastructure and services, and supporting land uses. Provide incentives for infill development, redevelopment and growth in existing urbanized areas to enhance community character, optimize infrastructure investments, support increased transit use, promote non- motorized transportation, increase housing diversity and enhance commercial viability. Structure fee programs so that infill development is "priced" according to its relative infrastructure efficiencies and the community-wide benefits to be realized. (Policy III.B.1)

AQ-3. To maximize economic and social benefits, and resource efficiencies, prioritize and focus new development within the existing City limits. This will strengthen existing neighborhoods and maximize efficiencies of utility and infrastructure systems. New development should be accessible via all modes of transportation, both motorized and non- motorized, with an emphasis on availability of public services. (Policy III.B.2)

AQ-4. Create neighborhoods that are complete, compact and sustainable so that housing, jobs, shopping and transit access are within easy walking distance of each other. Include a mix of compatible land uses within close proximity, contain a diversity of housing types to accommodate a wide range of economic levels and age groups, and have a center focus that combines commercial, civic, cultural, and recreational uses in order to facilitate high-quality living environments. Access to healthy foods and grocery stores that sell fresh fruits and vegetables is a high priority. (Goal III.C)

AQ-5. Complete neighborhoods promote livability, sustainability and safety for all residents. Neighborhoods are to contain: a mix of housing types including affordable and market-rate; a range of services and facilities such as schools, parks, retail, services & civic facilities; transit access within ½-mile of all dwelling units; and, complete streets with tree canopy cover that accommodate both motorized and non-motorized mobility. (Policy III.C.1)

AQ-6. Encourage development of local, citywide and regional mixed-use centers that address different community needs and market sectors, and that compliment and are well-integrated with surrounding neighborhoods. (Policy III.C.4)

AQ-7. All parts of new neighborhoods should be within a half-mile of a central gathering place that is located on a collector street or minor arterial and that includes public space, shopping areas, transit access, and community-supportive facilities and services. (Policy III.C.5)

AQ-8. Design new neighborhoods with traditional grid block sizes ranging from 300 to 400 feet in length. Separate sidewalks from the curb with a minimum eight-foot (8') landscaped parkway. Construct context-appropriate traffic-calming improvements, such as traffic circles and intersection bulbouts. (Policy III.C.6)

AQ-9. New neighborhoods include transit stops that support and connect to the citywide transit system, and that are within a half-mile walking distance of all dwelling units. (Policy III.C.7)

AQ-10. Neighborhoods should contain sufficient K-12 schools necessary to serve them. Locate schools on Collector streets, preferably at or near the intersection of two Collector streets. Locate neighborhood parks (see UAGP Chapter VI for parks standards) adjacent to school sites. New schools and parks should be surrounded by streets on all sides wherever possible to encourage access by walking and bicycling. (Policy III.C.8)

AQ-11. Encourage the development of senior housing in neighborhoods that are accessible to public transit, commercial services, and health & community facilities. (Policy III.C.9)

AQ-12. Corridor Studies guide infill development, and re-use / recycling of existing development, along major transportation corridors. Such development will balance vehicular circulation and access against all other travel modes – both motorized and non-motorized. Development along major transportation corridors should mix land uses effectively so that housing, retail and service needs are combined with pedestrian-friendly facilities and gathering places. (Goal III.D)

AQ-13. Development along major transportation corridors that occurs pursuant to an adopted corridor study should be compact, mixed-use, transit- / bicycle- / pedestrian-friendly, and scaled appropriately to match the context and transition to existing nearby neighborhoods. (Goal III.E)

AQ-14. Locate higher-density, transit-oriented, mixed-use development (TOD) along major transportation corridors near significant intersections and public transportation facilities. Development density along major transportation corridors should increase with proximity to transit stops and decrease with distance from transit stops in order to encourage increased transit ridership. Establish specific thresholds, standards and guidelines for TOD and other development types in the applicable corridor study documentation. (Policy III.E.1)

AQ-15. Promote mixed-use infill development along major transportation corridors through the use of corridor studies, zoning, flexible development standards, density bonuses and other development incentives. Locate such development along the back of sidewalk, and

oriented to frame the street, while incorporating public plazas and pedestrian amenities that will create people-oriented centers for living, working and gathering. (Policy III.E.2)

AQ-16. Encourage high-quality, compact, multi-story residential infill development along major transportation corridors, through design criteria contained within applicable corridor study documentation. Minimize parking requirements where appropriate. Maintain compatibility with form and function of nearby existing neighborhoods through use of applicable design guidelines. (Policy III.E.3)

AQ-17. Corridor studies may include a form-based code component to guide subsequent development, in order to provide clear and consistent development standards. Other potential implementation mechanisms include, and are not limited to, mixed-use and/or overlay zoning, specific plans, and design guidelines. (Policy III.E.4)

AQ-18. Promote the transformation of major transportation corridors, via formal corridor studies, into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating the following design features: (Policy III.E.5)

i. Wide sidewalks to accommodate pedestrian traffic, amenities and landscaping;

ii. On-street parking between sidewalks and travel lanes;

iii. Few curb cuts and driveways;

vi. Enhanced pedestrian street crossings;

v. Compatible interface / relationship with adjacent existing residential neighborhoods;

v. Buildings located at the back of sidewalk;

vii. Building entrances oriented to the street;

viii. Transparent ground floor frontage;

ix. Street trees and furnishings; and,

x. Pedestrian-scale lighting and signage.

AQ-19. Downtown Modesto is a high-priority area for both public and private investment. Therefore, the City should prioritize and focus infrastructure investments here. Downtown is planned to become a more urban, higher-density, mixed-use, pedestrian-oriented, economically vibrant, innovative center for living, working, socializing and recreating. (Goal III.F)

AQ-20. Implement higher density, mixed-use development to create a balanced, vibrant downtown and active neighborhood centers by streamlining development processing,

offering public parking for projects within parking structures in lieu of the provision of private parking, reducing fees and providing for deferral of fees. (Policy III.F.1)

AQ-21. Housing in the Downtown Area should include a variety of unit types and densities, ranging from medium to very high, to act as a catalyst for other types of development. (Policy III.F.2)

AQ-22. Enhance downtown businesses by establishing new downtown residential and mixed-use development, which will provide customers for downtown businesses. (Policy III.F.3)

AQ-23. Higher-density, transit-oriented, mixed-use development (TOD) within the Downtown area should be strategically located near the most significant intersections and public transportation facilities such as the bus depot and passenger rail station. TOD should be designed and oriented toward these and any other major transportation facilities, as they are among the most important building blocks for Downtown Modesto's future. (Policy III.F.6)

AQ-24. Reduce the use of automobiles and the need to own a car by prioritizing infrastructure for pedestrians, bicycles, buses, and rail over automobile infrastructure, which also reduces the need for off-street parking. (Policy III.F.7)

AQ-25. Develop a context-sensitive circulation system that prioritizes and facilitates pedestrians, bicycles, and transit, and which also accommodates automobiles. (Policy III.F.8)

AQ-26. Support development of a downtown passenger rail station, and its connectivity to other transportation modes, to act as a catalyst for intensified mixed-use development within the downtown area. (Policy III.F.9)

AQ-27. Commercial development should strengthen the vehicular, pedestrian and visual connections between shopping centers and their surrounding neighborhoods, and between neighboring retail sites, through physical improvements, public transit and coordinated land use and transportation planning. (Goal III.G)

AQ-28. Support the transformation of auto-oriented shopping centers currently characterized by retail strips surrounded by large surface parking lots into pedestrian- and bicycle-friendly places. Retail activity and shopping in general should be designed for pedestrian, bicyclist and transit user safety and convenience. Wide sidewalks, crosswalks, clear and well-lit storefront windows, varied building facades, awnings, street furniture, public art, extensive landscaping and pedestrian-scaled signage are among the design components to be considered. (Policy III.G.1)

AQ-29. For new shopping center development, and for renovation of older shopping centers where feasible, locate buildings at the "front" of the site (at or near the back of sidewalk) and parking at the "back" of the site, behind the buildings. This policy is intended to be applied where contextually-appropriate, primarily in the more walkable areas of the City. (Policy III.G.2)

AQ-30. Locate employment-intensive uses, such as medical and professional offices, light industry, R&D and skill training, in appropriate areas as designated by the General Plan and the zoning map. Locate Business Parks, Industrial development and other employment centers near access points to major transportation facilities so that they are accessible by all modes of transportation. (Goal III.H)

AQ-31. Design employment center development to accommodate safe and convenient walking, biking and transit use, and provide a high-quality campus-like environment, characterized by the following: (Policy III.H.2)

- Interconnected streets and walkable blocks;
- Buildings sited around common plazas, courtyards, walkways and open spaces;
- On-site landscaping and buffers between buildings and properties;
- Visual screening of areas for outdoor storage, processing and/or other industrial operations;
- A thoughtful and well-executed signage program for business identification and way-finding;
- Landscaping and lighting to promote pedestrian activity;
- Clearly-marked driveways, pedestrian routes and building entries that minimize potential conflicts among trucks, autos, bicycles and pedestrians; and,
- Control of operations regarding lighting, noise, odors, vibrations, hazardous / toxic materials, heavy equipment / truck access and any other environmental considerations that may affect nearby properties.

TRANSPORTATION ELEMENT GOALS AND POLICIES

AQ-32. Provide transportation choices that are safe, reliable, effective, and economical for all users to decrease household transportation costs, improve air quality, reduce greenhouse gas emissions, and promote public health. The transportation system will be robustly multi- modal, recognizing that adding capacity for automobiles is often the least cost-effective improvement. (Goal V.A)

AQ-32. Identify gaps in the pedestrian and bicycle transportation systems and plan facilities to close those gaps. (Policy V.A.1)

AQ-34. Streets, pedestrian paths, and bike paths contribute to a system of fully-connected routes to all destinations. Their designs encourage pedestrian and bicycle use when small and spatially defined by buildings, trees, and lighting, and when high-speed traffic is discouraged. (Policy V.A.2)

AQ-35. Prepare and maintain a citywide transportation improvement program for all modes of travel, considering the development context when selecting which improvements should be included in the Capital Improvement Program. (Policy V.A.3)

AQ-36. Update and maintain a Capital Facilities Fee program to contribute to multi-modal transportation improvement projects of local and regional significance. (Policy V.A.4)

AQ-37. In the case of conflict between motorized and non-motorized transportation modes, roadway or right-of-way features may be added or altered to protect pedestrians and bicyclists, consistent with Urban Area General Plan goals. (Policy V.A.5)

AQ-38. Level of Service and Quality of Service for all transportation modes (vehicle, transit, bicycle and pedestrian) on City roadways should be improved over time consistent with the financial resources reasonably available to the City and without unreasonably burdening property owners or developers. On roadways where the automobile LOS is expected to be level F, the City will consider mitigation measures other than road widening, such as the addition of bicycle lanes, improved pedestrian access, improved transit service, and the establishment of walkable development patterns to improve the quality of service for all travel modes. (Policy V.A.6)

AQ-39. Where traffic volumes, development types and access patterns provide opportunity, a four-lane street may be narrowed to a two-lane street, with a center turn lane, in order to better accommodate on-street parking, bicycle facilities and other amenities. These types of complete street retrofit projects are generally intended to enhance facilities for non-motorized travel modes, within an existing right-of-way, without resulting in reduced functionality for the motoring public. Maintaining high-quality transit service is equally important. (Policy V.A.7)

AQ-40. Many streets in the built city are constrained from further widening by existing development. For street segments identified in the table below (also see Figure V-4), right-of-way dedications in conjunction with any development will be limited to obtaining that necessary to close a gap in: a) the number of vehicle lanes; b) bicycle lanes; c) sidewalk / curb / gutter; or, d) be a feasible mitigation measure that can't otherwise be achieved by means such as restriping within the existing right-of-way. Standard design specifications such as travel lane width or intersection design criteria may be waived or modified at the discretion of the City Engineer. Additional right-of-way may be needed at key arterial / arterial intersections to allow for turning lanes, if appropriate at any particular location(s). (Policy V.A.8)

AQ-41. Reduce per capita automobile vehicle miles traveled and per capita automobile trips. To facilitate walking, particularly to and from transit stops, and to reduce automobile trip lengths blocks should be short and streets should frequently intersect. (Goal V.B)

AQ-42. Design roadways and roadway connections to: provide a grid street system featuring short blocks and frequent connections to collectors and arterials to improve connectivity and

accessibility for all modes; increase route choice; better accommodate public transit services; and reduce trip lengths, traffic congestion, and pollution. To promote walking, limit block size to no more than 600 feet on a side, and provide internal access via alleys or walkways (any block-face less than 400 feet long need not have alleys or walkways). Cul-de-sacs are discouraged and, when deemed necessary, cul-de-sacs should include pedestrian and bicycle connections to the greatest extent possible. (Policy V.B.1)

AQ-43. Frequent multiple-leg intersections increase street connectivity and walkability, while reducing trip lengths. Intersection density will be used to measure the degree of walkability of an area where streets have not yet been laid out. LEED ND defines walkability as a minimum threshold of 140 intersections per square mile. Higher intersection density indicates that an area is more walkable. By way of example, Modesto's one-square-mile downtown grid contains approximately 140 intersections. (Policy V.B.2)

AQ-44. Streets and roads in the downtown area are constrained (see UAGP Policy V.A.6). Transportation mitigation may be applied to projects in that area to facilitate non-automobile travel through means such as sidewalk widening and adding bicycle lanes and increasing transit service. (Policy V.C.3)

AQ-45. If it is determined that a site access study is needed in the downtown area, that study shall evaluate movement conflicts across all modes (walking, bicycle, car, bus, train) with an emphasis on facilitating non-automobile travel. (Policy V.C.4)

AQ-46. Outside of the downtown area, consider and balance the effects of automobile traffic mitigation on non-automobile travel – particularly in areas where the city is attempting to improve conditions that support non-automobile travel – when considering solutions to traffic circulation problems. (Policy V.C.5)

AQ-47. Ensure that pedestrians of all ages and abilities feel safe using pedestrian facilities in order to eliminate safety as a barrier to walking for transportation. (Goal V.D)

AQ-48. Add median refuges along arterials and four-lane collectors in areas where pedestrian traffic is to be facilitated to give pedestrians a safe halfway point for street crossings. (Policy V.D.1)

AQ-49. Add sidewalk bulbouts in areas where pedestrian traffic is to be facilitated to reduce crossing distance and improve visibility of pedestrians to other roadway users. (Policy V.D.2)

AQ-50. Identify gaps, needs, and deficiencies in the pedestrian transportation network. (Policy V.D.3)

AQ-51. The green phase of traffic signals citywide should be timed to allow pedestrians of all ages and abilities to safely cross the street. The Federal Highway Administration's Best Practices

Design Guide for Designing Sidewalks and Trails for Access, suggests crossing times should allow for pedestrians traveling 3.5 feet per second or slower. (Policy V.D.4)

AQ-51. Consider funding bicycle facilities as a priority in the Capital Improvement Program. (Policy V.E.2)

AQ-52. When streets are repaired or resurfaced, add bicycle facilities to those streets as appropriate with striping, stencils, and/or signage, consistent with UAGP Figure V-3. (Policy V.E.3)

AQ-53. Increase bicycle ridership for transportation purposes through the addition of bicycle facilities, such as a bike-share program, and other system improvements. (Policy V.E.4)

AQ-54. Street projects should be evaluated to determine how the planned bicycle facilities can be accommodated. (Policy V.E.6)

AQ-55. Where right-of-way constraints exist, a "sharrow" may be used to supplement Class II bicycle facilities where vehicle speeds do not exceed 25 mph. (Policy V.E.7)

AQ-56. Protected intersection design features, bike boxes and bicycle detection systems may be used to delineate bicycle facilities, improve safety, and allow bicycle traffic to trigger the green phase of a traffic signal. In accordance with California Vehicle Code Section 21450.5, sensors that detect the presence of a waiting bicycle should be added to signalized intersections when signals are installed, upgraded and/or maintained. Other markings and signage may be used as approved by the City Engineer. (Policy V.E.8)

AQ-57. The green phase of traffic signals throughout Modesto should be timed to allow bicycle riders of all ages and abilities to cross the street safely. (Policy V.E.9)

AQ-58. Increase transit use through higher-frequency service of at least 15-minute headways downtown and along major transportation corridors. Transit and land use will be interconnected to support increased ridership. (Goal V.F)

AQ-59. Provide the most frequent service feasible in order to facilitate the highest quality public transportation. (Policy V.F.1)

AQ-60. Maintain farebox recovery ratios sufficient to meet state requirements while maximizing service, especially in the heavy use areas identified in UAGP Goal V.F. (Policy V.F.2)

AQ-61. Provide service on a half-mile grid where feasible to make the service as accessible as possible. Newly developing areas should provide a street pattern capable of accommodating transit service on a half-mile grid. Sidewalks should be provided in the development of new roadway systems to accommodate bus stops, and to minimize walking distance between them. (Policy V.F.3)

AQ-62. Coordinate bus and other feeder service with passenger rail and other long-distance transit service to facilitate transfers between services and reduce auto use. (Policy V.F.9)

AQ-63. Strengthen Modesto's value as county seat and center of activity and transportation in Stanislaus County by building a passenger rail station in downtown, consistent with the California High Speed Rail Authority's service goals and with the Altamont Commuter Express' expansion plans. (Goal V.G)

AQ-64. Support a healthy, safe Modesto by reducing trip lengths and vehicle miles traveled per capita, reducing collision rates, supporting the increased use of alternative modes, and helping reduce greenhouse gas emissions and other air pollutants, while balancing the transportation needs of all travelers. (Goal V.H)

AIR QUALITY ELEMENT GOALS AND POLICIES

AQ-65. Implement measures to reduce motor vehicle use and related ozone precursor and PM10 emissions through changes to the transportation infrastructure. Potential measures to be implemented may include those shown in Section V-2 of the Final Master Environmental Impact Report. (Policy VII.H.2.a)

AQ-66. Implement measures to reduce vehicle use and associated emissions related to existing and future land use development in the City of Modesto. Potential measures to be implemented may include those shown in Section V-2 of the Final Master Environmental Impact Report. (Policy VII.H.2.a)

AQ-67. Implement measures to reduce emissions associated with energy use by residences and businesses. Potential measures to be implemented may include those shown in Section V-2 of the Draft Master EIR. (Policy VII.H.2.c)

AQ-68. The City of Modesto recognizes the efforts of the San Joaquin Valley Air Pollution Control District to identify the cumulative transportation and air quality impacts of all General Plan amendments approved during the previous year. This measure is intended to track the effectiveness of current air quality–related programs and guide revision to these programs through periodic review of cumulative air quality impacts in the City. (Policy VII.H.2.d)

The City of Modesto encourages employers to implement the following measures:

1) In-house matching services (for carpools and vanpools) at employers with over 100 weekday employees, or at large development sites occupied by several smaller employers, or coordination with Caltrans' "Commuter Computer" program;

2) Employer-based dissemination of commute information;

3) Employer subsidies for transit passes and incorporation of transit stop facilities into site design;

4) A program to guarantee rideshare participants a ride home in case of emergency;

5) Flex-time scheduling;

6) Site plan design that encourages pedestrian movement between adjacent land uses;

7) Incentives such as preferred parking for carpoolers;

8) Encouraging submission of site plans featuring mixed land uses or "neo-traditional" design; and,

9) Encouraging employers to experiment with telecommuting options, where feasible.

AQ-69. Work with neighboring jurisdictions and affected agencies to address cross- jurisdictional and regional transportation and air quality issues. (Policy VII.H.2.e)

AQ-70. Coordinate with other jurisdictions and other regional agencies in the San Joaquin valley to establish parallel air quality programs and implementation measures (trip reduction ordinances, indirect source programs, etc.). (Policy VII.H.2.f)

AQ-71. Implement measures to reduce emissions associated with future development through the CEQA review process. Section V-2 of the MEIR describes those measures to be implement-ted, as well as additional measures that may be implemented at the discretion of the City. (Policy VII.H.2.g)

AQ-72. Consult with the SJVAPCD during CEQA review for discretionary projects with the potential for causing adverse air quality impacts. (Policy VII.H.2.h)

AQ-73. Consider supporting investment in geographic information system technology. (Policy VII.H.2.i)

AQ-74. Work to improve the public's understanding of the land use, transportation, and air quality relationships. (Policy VII.H.2.j)

AQ-75. Encourage local public and private groups to provide air quality education programs. (Policy VII.H.2.k)

AQ-76. Encourage new air pollution sources such as, but not limited to, industrial, manufacturing, and processing facilities to be located an adequate distance (based on pollutant dispersion characteristics, site orientation, prevailing winds, etc.) from residential areas and other sensitive receptors. (Policy VII.H.2.l)

AQ-77. Implement measures to reduce the temporary, yet potentially significant, local air quality impacts from construction activities. Potential measures to be implemented may include those measures shown in Section V-2 of Master Environmental Impact Report. (Policy VII.H.2.m)

AQ-78. Require residential development projects and projects categorized as sensitive receptors (hospitals, schools, convalescent homes, etc.) to be located an adequate distance from

existing and potential sources of toxic and/or odorous emissions such as freeways, major arterials, industrial sites, refuse transfer or disposal sites, and hazardous material locations. (Policy VII.H.2.n)

AQ-79. Determine project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD. (Policy VII.H.2.o)

AQ-80. Ensure that air quality impacts identified during CEQA review are consistently and fairly mitigated. (Policy VII.H.2.p)

AQ-81. Ensure all air quality mitigation measures are feasible, implementable, and cost effective. (Policy VII.H.2.q)

AQ-82. Identify the cumulative transportation and air quality impacts of all General Plan amendments approved during the previous year. (Policy VII.H.2.r)

AQ-83. Reduce the air quality impacts of development projects that may be insignificant by themselves, but cumulatively are significant. (Policy VII.H.2.s)

AQ-84. Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties. (Policy VII.H.2.t)

AQ-85. Review of new development shall be coordinated with SJVAPCD staff to ensure all projects subject to the SJVAPCD Rule 9510 (Indirect Source Review) comply fully with the rule. This rule fulfills the SJVAPCD's emission reduction commitments in the PM10 and Ozone Attainment Plans through emission reductions from the construction and use of development projects through design features and onsite measures. Rule 9510 applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which meets certain minimum thresholds. (Policy VII.H.2.u)

AQ-86. A Construction Health Risk Assessment shall be required on a project-by-project basis if, at the direction of SJVAPCD after applicant consultation, the specific project is considered to have a potentially significant project-level health risk impact, through refined modeling using 2015 OEHHA guidance (or the latest accepted methodology), to identify impacts and, if necessary, include measures determined by SJVAPCD to reduce exposure. (Policy VII.H.2.v)

AQ-87. Future development that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within the setback distances from highways, railroads, local roadways, and stationary sources specified below shall require site-specific analysis to determine the level of TAC and PM2.5 exposure. This analysis shall be conducted following methodology and procedures recommended by SJVAPCD and OEHHA. If the site- specific analysis reveals significant exposures, such as cancer risk greater than 20 in one million or acute or chronic hazards with a Hazard Index greater than 1.0, additional measures (described below) shall be required to reduce the risk below the threshold. (Policy VII.H.2.w)

Setback screening distances:

a) Gasoline dispensing facilities: 300 feet for large facilities (3.6 million gallons of throughput a year or more) and 50 feet for smaller facilities;

b) Dry cleaning facilities: 300 feet for facilities that emit Perchlorethylene;

c) Distribution centers: 1,000 feet;

d) Chrome platers: 1,000 feet;

e) Freeways, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day or more: 500 feet;

f) BNSF rail line: 800 feet from 2020-2024, and 500 feet for 2025 and later; and,

g) UP rail line: 200 feet east of the rail line and 300 feet west of the rail line from 2020- 2024, and 100 feet east of the rail line and 200 feet west of the rail line for 2025 and later.

Future non-residential developments containing potentially significant TAC sources would be evaluated in consultation with SJVAPCD to ensure that they do not cause a significant health risk in terms of excess cancer risk greater than 20 in one million, or acute or chronic hazards with a Hazard Index greater than 1.0. This analysis shall be conducted following methodology and procedures recommended by SJVAPCD and OEHHA. If the site-specific analysis reveals significant exposures, additional measures shall be required as described below to reduce the risk to below the threshold.

If the analysis shows the cancer risk exposure is significant, then the project sponsor shall submit performance specifications and design details to demonstrate that lifetime residential exposures would be reduced to a level of less-than-significant under the applicable threshold subject to approval by the City. The specifications or design standards may include the following or other comparable measures:

i. Install air filtration systems rated MERV-13 or higher and a maintenance plan for the air filtration system shall be implemented.

ii. Plant trees and/or vegetation between sensitive receptors and pollution sources, if feasible. Trees that are best suited to trapping particulate matter shall be planted, including the following: Pine (Pinus nigra var. maritime), Cypress (X Cupressocyparis leylandii), Hybrid popular (Populus deltoids X trichocarpa), and Redwoods (Sequoia sempervirens).

iii. Design sites to locate sensitive receptors as far as possible from any freeways, roadways, diesel generators, distribution centers, and rail lines.

iv. Locate operable windows, balconies, and building air intakes as far away from these sources as feasible. If near a distribution center, residents shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.

AQ-88. Coordinate land use planning to prevent new odor complaints. Consult with SJVAPCD, as necessary, to identify the potential for odor complaints from various existing and planned or proposed land uses and development projects. Prohibit new sources of odors that have the potential to result in frequent odor complaints unless it can be shown that potential odor complaints can be mitigated where feasible. Prohibit sensitive receptors from locating near odor sources where frequent odor complaints would occur, unless it can be shown that potential odor complaints can be mitigated where feasible. (Policy VII.H.2.x)

AQ-89. Consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community. (Policy VII.H.2.y)

AQ-90. All transportation improvement projects to be included in regional transportation plans (RTP, RTIP, CMP, etc.) should be consistent with the air quality goals and policies of the General Plan. (Policy VII.H.2.z)

AQ-91. Consult with transit providers to determine project impacts on long-range transit plans and ensure that impacts are mitigated where feasible. (Policy VII.H.2.aa)

AQ-92. Work with the Housing Authority, transit providers, and developers to encourage the construction of low-income housing developments that use transit-oriented and pedestrian- oriented design principles. (Policy VII.H.2.bb)

AQ-93. Work with Caltrans and the Regional Transportation Planning Agency to minimize the air quality, mobility, and social impacts of large scale transportation projects on existing neighborhoods. (Policy VII.H.2.cc)

AQ-94. Implement employer-based trip reduction programs for their employees. (Policy VII.H.2.dd)

AQ-95. Replace or convert conventional fuel vehicles with clean fuel vehicles as feasible, within the City's motorpool fleet, considering budgetary constraints. (Policy VII.H.2.ee)

AQ-96. Support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible. (Policy VII.H.2.ff)

AQ-97. Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives. (Policy VII.H.2.gg)

AQ-98. Work to establish public / private partnerships to develop satellite and neighborhood work centers for telecommuting. (Policy VII.H.2.hh)

AQ-99. Encourage the development of state of the art communication infrastructure linked to the rest of the world. (Policy VII.H.2.ii)

AQ-100. Reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible in accordance with the requirements of SJVAPCD Regulation VIII. Regulation VIII was adopted to reduce the amount of particulate matter suspended in the atmosphere as a result of emissions generated from anthropogenic (man- made) fugitive dust sources. (Policy VII.H.2.jj)

AQ-101. Require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions in accordance with the requirements of SJVAPCD Regulation VIII and are appropriate to the scale and intensity of use. (Policy VII.H.2.kk)

AQ-102. Reduce PM10 emissions from City–maintained roads to the maximum extent feasible. (Policy VII.H.2.ll)

AQ-103. Effectively stabilize dust emissions using water, chemical stabilizer / suppressant, cover with a tarp or other suitable cover or vegetative ground cover, all disturbed areas, including storage piles, which are not being actively utilized for construction purposes. (Policy VII.H.2.mm)

AQ-104. Effectively stabilize dust emissions using water or chemical stabilizer / suppressant, all onsite unpaved roads and off-site unpaved access roads. (Policy VII.H.2.nn)

AQ-105. Effectively control fugitive dust emissions utilizing application of water or by presoaking all land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities. (Policy VII.H.2.oo)

AQ-106. Wet all exterior surfaces of buildings that are more than six stories tall during demolition. (Policy VII.H.2.pp)

AQ-107. When materials are transported off site, cover all materials, or effectively wet them to limit visible dust emissions, and maintain at least six inches of freeboard from top of container. (Policy VII.H.2.qq)

AQ-108. Limit operations or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday (the use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) (Policy VII.H.2.rr)

AQ-109. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, effectively stabilize said piles for fugitive dust emissions utilizing sufficient water or chemical stabilizer / suppressant. (Policy VII.H.2.ss)

AQ-110. Within urban areas, immediately remove trackout when it extends 50 or more feet from the site and at the end of each workday. (Policy VII.H.2.tt)

AQ-111. Prevent carryout and trackout for any site with 150 or more vehicle trips per day. (Policy VII.H.2.uu)

AQ-112. Limit traffic speeds on unpaved roads to 15 mph. (Policy VII.H.2.vv)

AQ-113. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent (1%). (Policy VII.H.2.ww)

AQ-114. Install wheel washers for all exiting trucks, or wash all trucks and equipment leaving the site. (Policy VII.H.2.xx)

AQ-115. Install wind breaks at windward side(s) of construction areas. (Policy VII.H.2.yy)

AQ-116. Suspend excavation and grading activity when winds exceed 20 mph (regardless of windspeed, an owner/operator must comply with Regulation VIII's 20 percent opacity limit). (Policy VII.H.2.zz)

AQ-117. Limit the area subject to excavation, grading, and other construction activity at any one time. (Policy VII.H.2.aaa)

3.7.3 IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

Climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

ENERGY CONSERVATION

The proposed project would result in a significant impact on energy use if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: General Plan implementation would generate GHG emissions that could have a significant impact on the environment and/or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Significant and Unavoidable)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

Development anticipated under the proposed General Plan would include activities that emit greenhouse gas emissions over the short and long term. A summary of short- and long-term emissions and the analysis for each are included below.

The major projected impacts of climate change in Modesto are expected to be more days of extreme heat over longer periods, as well as potential for localized flooding and drought conditions. The major sources of GHGs in Modesto are on-road transportation, non-residential energy, and residential energy use. Short-term and long-term emissions typically associated with construction and operations of future development projects.

SHORT-TERM EMISSIONS

Short-term greenhouse gas emissions would occur because of construction equipment used for the following: demolition, grading, paving, and building construction activities associated with future development and infrastructure projects that will be undertaken in Modesto over the next 20 years. GHG emissions would also result from worker and vendor trips to and from project sites and from demolition and soil hauling trips. Construction activities are short-term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. There is no threshold of significance for construction-related GHG emissions for plan-level impacts (including general plans).

Adoption of the proposed General Plan does not directly approve or otherwise entitle any new development projects or infrastructure improvement projects in Modesto. As such, the construction-related GHG emissions of future projects cannot be known or quantified at this time, as it would be highly speculative. Typically, construction-related GHG emissions contribute unsubstantially (less than one percent) to a project's annual greenhouse gas emissions inventory

and mitigation for construction-related emissions is not effective in reducing a project's overall contribution to climate change, given how small of a piece of the total emissions construction emissions are. Short-term climate change impacts due to future construction-related activities would be subject to State requirements for GHG emissions and would be assessed on project-by-project basis, as required by CEQA.

LONG-TERM EMISSIONS

Future development projects will result in continuous GHG emissions from mobile, area, and operational sources. Mobile sources, including vehicle trips to and from development projects, will result primarily in emissions of CO_2, with minor emissions of CH_4 and N_2O. Other significant GHG emission come from natural gas usage and methane. Electricity usage by future development and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions of carbon dioxide. Disposal of solid waste will result in emissions of methane from the decomposition of waste at landfills coupled with CO_2 emission from the handling and transport of solid waste. These sources combine to define the long-term greenhouse gas inventory for typical development projects.

The effectiveness of efforts by the Stanislaus Council of Governments (SCOG) 2022 Regional Transportation Plan (RTP) to provide transportation alternatives and to implement policies and strategies consistent with State and national goals of reducing GHG emissions can be measured in terms of reductions in vehicle miles traveled (VMT) or expected growth in VMT. VMT reductions correlate directly with reductions in GHG emissions. Caltrans reports VMT by County on an annual basis. Stanislaus County has experienced notable growth in population and employment over the past two decades and is forecast to continue this trend into the future.

Overall, as also described in Section 3.3: Air Quality of the Draft EIR, the proposed General Plan would result in a less VMT per capita growth when compared to the combined jobs and population growth.

Specifically, as of 2019, the Planning Area had an existing population of approximately 265,178. Full buildout of the General Plan (inclusive of the proposed amendments to the General Plan and zoning ordinance) could generate up to 117,107 new residents, for a total population of 382,284 at buildout. Modesto has an existing jobs base of approximately 110,815 jobs. Full buildout of the Planning Area (inclusive of the proposed amendments to the General Plan and zoning ordinance) is anticipated to generate up to 57,049 new jobs in Modesto, resulting in 167,861 total jobs at buildout. Table 3.3-6 shows the combined population and jobs growth generated by the proposed project, compared to existing levels within the city. Table 3.3-7 shows the existing baseline VMT and projected VMT following buildout of the proposed project.

TABLE 3.7-2: COMBINED JOBS AND HOUSING GROWTH

EXISTING JOBS + POPULATION IN MODESTO	375,989
NEW JOBS + POPULATION GENERATED BY PROJECT	550,145
PERCENT INCREASE IN JOBS + POPULATION	46.3%

SOURCE: ITERIS, 2024

TABLE 3.7-3: EXISTING AND PLUS-PROJECT VMT (PER DAY)– PLANNING AREA

EXISTING VMT	3,876,179
EXISTING PLUS PROJECT VMT	5,356,318
PERCENT INCREASE IN VMT	38.2%

SOURCE: ITERIS, 2024

As shown in the two tables above, implementation of the Project (inclusive of the proposed amendments to the General Plan and zoning ordinance) would result in an approximately 38.2% increase in citywide VMT, less than the 46.3% increase in combined population and jobs. Therefore, the growth rate associated with the proposed General Plan (inclusive of the proposed amendments to the General Plan and zoning ordinance) is less than the VMT increase associated with it. Therefore, the proposed project is not anticipated to result in VMT increases on a per service population basis. Overall, the VMT per service population would be reduced from 10.31 under the existing scenario to 9.74 under the future scenario with implementation of the General Plan (inclusive of the proposed amendments to the General Plan and zoning ordinance).

According to the CARB's 2022 Climate Change Scoping Plan, the transportation sector remains the largest source of GHG emissions in the State, accounting for approximately 40% of the inventory (CARB, 2022). A typical passenger vehicle emits approximately 4.6 metric tons of CO_2 per year (U.S. EPA, 2018). This number can vary based on a vehicle's fuel, fuel economy, and the number of miles driven per year.

To reduce community-wide GHG emissions, the proposed General Plan includes goals and policies that would limit increases to greenhouse gas emissions within the city. Examples of such goals and policies include Policy III.B.1 (i.e. AQ-2), which requires the City to facilitate infill development. Policy III.C.4 (i.e. AQ-6) encourages development of local, citywide, and regional mixed-use centers that address different community needs and market sectors, and that compliment and are well-integrated with surrounding neighborhoods. Policy III.E.1 (i.e. AQ-14) promotes new development to be located within higher-density, transit-oriented, mixed-use development (TOD) along major transportation corridors near significant intersections and public transportation facilities.

There are also many policies and goals that promote reducing GHG emissions associated with transportation. For example, Policy V.A.2 (i.e. AQ-34) requires streets, pedestrian paths, and bike paths to contribute to a system of fully-connected routes to all destinations. Additionally, Policy V.A.3 (i.e. AQ-35) requires the preparation and maintenance of a citywide transportation improvement program for all modes of travel. Further, Goal V.B requires a reduction in per capita automobile vehicle miles traveled and per capita automobile trips. Policy V.E.7 (i.e. AQ-55) states that, where right-of-way constraints exist, a "sharrow" may be used to supplement Class II bicycle facilities where vehicle speeds do not exceed 25 mph. Goal V.H (i.e. AQ-64) requires the City to

support a healthy, safe Modesto by reducing trip lengths and vehicle miles traveled per capita, reducing collision rates, supporting the increased use of alternative modes, and helping reduce greenhouse gas emissions and other air pollutants, while balancing the transportation needs of all travelers.

The proposed General Plan also includes additional air quality-related policies to reduce emissions, including Policy VII.H.2.n (i.e. AQ-78), which requires residential development projects and projects categorized as sensitive receptors (hospitals, schools, convalescent homes, etc.) to be located an adequate distance from existing and potential sources of toxic and/or odorous emissions such as freeways, major arterials, industrial sites, refuse transfer or disposal sites, and hazardous material locations. Policy VII.H.2.u (i.e. AQ-85) requires that review of new development shall be coordinated with SJVAPCD staff to ensure all projects subject to the SJVAPCD Rule 9510 (Indirect Source Review) comply fully with the rule.

The General Plan includes policies and actions aimed at reducing GHG throughout the Planning Area and region through promoting energy efficiency, encouraging infill development, encouraging connectivity and accessibility to a mix of land uses that meet residents' daily needs within walking distance, increasing the accessibility of walking and bicycling, supporting the creation of electric vehicle charging stations, encouraging employers to provide programs for carpooling/transit/biking/walking subsidies, bicycle facilities, ridesharing, telecommuting, and working at home, and implementing various strategies to reduce VMT, among other strategies.

CONCLUSION

Overall, General Plan policies and implementing actions would minimize potential impacts associated with GHG emissions in the Planning Area through the promotion of VMT reduction strategies, multimodal support and transportation improvements, and the support of green building practices, among other policies and actions, and would support requirements under AB 32, SB 375, and SB 32.

Subsequent development projects would be required to comply with the General Plan and adopted federal, state, and local regulations for the reduction of GHG emissions. The City has prepared the General Plan to include numerous goals and policies intended to reduce GHG emissions associated with future development and improvement projects. However, even with implementation of the goals, policies, and actions contained in the proposed General Plan, there is no guarantee that the General Plan alone would be sufficient to limit GHGs to the extent required by AB 32, SB 375, and SB 32 and other federal and state regulations, and a quantitative GHG at the program level is not feasible. Therefore, General Plan implementation is considered to have the potential to generate GHG emissions that could have a significant impact on the environment and/or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This impact is considered ***significant and unavoidable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of

residential units that could be developed within these zones. UAGP policies listed above (AQ-1 through AQ-117) would reduce impacts associated with GHGs. However, this proposed density changes would not change the previous impact determination of ***significant and unavoidable.***

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to greenhouse gases: Policies AQ-1 through AQ-64. These policies address greenhouse gases, efficient land use design, and transportation efficiency and transportation mode choice.

Impact 3.7-2: General Plan implementation would not result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

The State CEQA Guidelines require consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix G of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, a project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

Buildout of the General Plan includes residential, commercial, office, industrial, mixed-use, open space, and other land uses (see Chapter 2.0: Project Description for further detail). As previously discussed, the buildout growth projections are not a prediction for growth as the actual amount of development that will occur through the planning horizon of the General Plan is based on many factors outside of the City's control, including future real estate and labor market conditions, property owner preferences and decisions, and site-specific constraints. The amount of energy used in the Planning Area at buildout would directly correlate to the type and size of development, the energy consumption associated with unit appliances, outdoor lighting, and energy use associated with other buildings and activities. Other major sources of Planning Area energy consumption include fuel used by vehicle trips generated during construction and operational activities, and fuel used by off-road and on-road construction vehicles during construction. The following discussion provides a breakdown of the energy uses in the Planning Area upon buildout of the proposed project.

ELECTRICITY AND NATURAL GAS

At buildout, the city' electricity and natural gas consumption would be used primarily to power buildings (all types of buildings, including residential, commercial, office, industrial, public, etc.). Electricity would primarily come from the electricity utility provider (PG&E), though on-site solar generation would generate a substantial source of energy for the community at General Plan buildout.

FUEL CONSUMPTION - ON-ROAD VEHICLES (OPERATION)

Buildout of the General Plan would generate vehicle trips during its operational phase. As shown in Table 3.7-2, the proposed project would generate approximately 5,356,318 daily VMT in the Planning Area. Fuel consumption is anticipated to represent the largest sector of GHG emissions at General Plan buildout. Energy for on-road vehicles would derive from gasoline, diesel, as well as electricity from PG&E and from on-site solar generation.

FUEL CONSUMPTION - ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during construction activities (from construction workers, vendors, and haulers). Most of the on-road mobile vehicle fuel used during the construction activities during buildout of the General Plan would occur during building construction.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during construction activities. A non-exhaustive list of off-road constructive vehicles expected to be used during construction activities includes: cranes, forklifts, generator sets, tractors, excavators, and dozers.

CONCLUSION

Buildout of the General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel), and from off-road construction activities (e.g., diesel fuel) associated with buildout of the General Plan. Each of these activities would require the use of energy resources. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures. For example, developers would be required to comply with the latest version of the Building Energy Efficiency Standards (CalGreen). CalGreen requires developers to implement stringent requirements for home insulation, energy efficiency of appliances, renewable energy, electric vehicle charging, water efficiency and conservation, construction waste reduction, indoor and outdoor air quality, material conservation and resource efficiency, and efficiency of building maintenance and operation.

Additionally, developers would have to comply with proposed General Plan policies and implementing actions that reduce energy usage, promote renewable and/or alternative energy sources, and encourage pedestrian/bicycle modes of transportation, as identified under Impact 3.7-1.

Buildout of the General Plan would follow all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio.

PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific sustainability features could further energy consumption of individual projects. The proposed project would also follow the planning documents described previously within this section.

As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for during General Plan buildout, including during construction, operations, maintenance, and/or removal. PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Planning Area. The City of Modesto would comply with all existing energy standards in implementing the General Plan project, and would not result in significant adverse impacts on energy resources. The proposed General Plan includes many policies that would reduce impacts on energy resources. For example, Policy VII.H.2.c (i.e. AQ-67) requires implementation of measures reduce emissions associated with energy use by residences and businesses.

There are also many policies and goals that promote reducing GHG emissions associated with transportation. For example, Policy V.A.2 (i.e. AQ-34) requires streets, pedestrian paths, and bike paths to contribute to a system of fully-connected routes to all destinations. Additionally, Policy V.A.3 (i.e. AQ-35) requires the preparation and maintenance of a citywide transportation improvement program for all modes of travel. Further, Goal V.B requires a reduction in per capita automobile vehicle miles traveled and per capita automobile trips. Policy V.E.7 (i.e. AQ-55) states that, where right-of-way constraints exist, a "sharrow" may be used to supplement Class II bicycle facilities where vehicle speeds do not exceed 25 mph. Goal V.H (i.e. AQ-64) requires the City to support a healthy, safe Modesto by reducing trip lengths and vehicle miles traveled per capita, reducing collision rates, supporting the increased use of alternative modes, and helping reduce greenhouse gas emissions and other air pollutants, while balancing the transportation needs of all travelers.

Other examples of goals and policies that would reduce energy emissions include Policy III.B.1 (i.e. AQ-2), which requires the City to facilitate infill development. Policy III.C.4 (i.e. AQ-6) encourages development of local, citywide, and regional mixed-use centers that address different community needs and market sectors, and that compliment and are well- integrated with surrounding

neighborhoods. Policy III.E.1 (i.e. AQ-14) promotes new development to be located within higher-density, transit-oriented, mixed-use development (TOD) along major transportation corridors near significant intersections and public transportation facilities.

Furthermore, with implementation of the proposed General Plan, the Planning Area would be linked closely with existing and proposed road, bicycle, and pedestrian networks that would well serve the residents of the Planning Area and neighboring communities. For the reasons stated above, buildout of the General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is a ***less than significant*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. UAGP policies listed above (AQ-1 through AQ-117) would reduce impacts associated with energy. This proposed density changes would not change the previous impact determination of ***less than significant.***

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to greenhouse gases: Policies AQ-1 through AQ-64. These policies address greenhouse gases, efficient land use design, and transportation efficiency and transportation mode choice.

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Project is built and operated in the future.

There were no comments received during the NOP scoping process related to this environmental topic.

3.8.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS AND WASTE

Hazardous Materials

Hazardous material is defined by California Health and Safety Code Section 25501 as follows: "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous Waste

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled, and is not properly contained, including soil or groundwater that is contaminated with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is hazardous waste. If a hazardous material is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within California is subject to various Federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or the loading of such materials (California Vehicle Code§§ 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

PHYSICAL SETTING

The study area for direct impacts related to generation of hazardous materials is the UAGP planning area.

HAZARDOUS SITES

This section describes the general status of hazardous materials within Modesto. Because of existing federal, state, and local hazardous materials programs and policies already in place, the evaluation of hazardous materials is limited to a qualitative description of the existing regulatory framework under which the City operates. Hazardous materials conditions are generally no more adverse than described in the 1995 Master EIR and subsequent updates. The following discussion provides a description of the federal, state, and local policies in place and provides a summary of the various site classifications, by which hazardous materials are identified. The following discussion also describes Modesto's status of compliance with hazardous materials regulations.

Envirostor Data Management System

The California Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating. Table 3.8-1 lists the active sites and the inactive (needs evaluation or action required) sites. Additionally, Figure 3.8-1 identifies all the active, evaluation required, and other open status sites from the EnviroStor database within Modesto.

TABLE 3.8-1: MODESTO SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)

DESCRIPTION (ENVIROSTOR ID)	*STATUS*	*LOCATION*
FEDERAL SUPERFUND		
Modesto Groundwater Contamination (50950002)	Active	McHenry Ave., south of Orangeburg Ave. (behind Halford's Cleaners at 941 McHenry Ave.)
STATE RESPONSE		
Elias Property (50650001)	Certified	2120 Kenneth Street
Gallo Glass - Sisk Ranch (50320003)	Certified	3666 W Service Road
Gallo Glass - Raffle Site (50320002)	Certified	N of HWY 132 & Adjacent to east bank of Dry Creek
Martinez Property (50650002)	Certified	1627 Nadine Avenue
Modesto Convention Center (50950001)	Certified	10th and L Streets
Morse Property Gallo Glass (50650003)	Certified	9355 Pellerin Road
Pacific Aluminum Corporation (60002159)	No Action Required	4555 North Star Way
Pacific Aluminum Corporation (50330001)	No Further Action	711 Bangs Avenue
VOLUNTARY CLEANUP		

Acme Cleaners (60001419)	Certified O&M - Land Use Restrictions Only	3501 McHenry Avenue
Caltrans Modesto Soil Stockpiles (50280024)	No Further Action	N. Emerald Avenue
FMC-Modesto (50490002)	Refer: RWQCB	1200 Barium Road
Former Service Cleaners (60001371)	Active	Vicinity of La Loma Avenue and Yosemite Blvd.
Hammond General Hospital [J09CA0824] (71000010)	Inactive - Needs Evaluation	2201 Blue Gum Avenue
Hi Grade Drive In Cleaners (60001422)	Active	1915 Yosemite Blvd.
Indalex AKA Pacific Aluminum (60002129)	No Further Action	4555 Northstar Way
Modesto Groundwater Investigation (50720008)	Active	"Project Area Defined in Oversight Agreement"
Modesto Steam Laundry and Cleaners (39890001)	Refer: RWQCB	1201 8th Street
State Route 132 West Expressway [aka: State Route 132/99 Interchange] (60001626)	Active	Intersection of State Route 132/99
Upper Tidewater Subdivision (50400001)	No Further Action	Milepost 26.43 To Milepost 3205
SCHOOL INVESTIGATION		
10 Acre Elementary (50010002)	No Further Action	Sharon Avenue/Fine Avenue
10-Acre Elementary No.9 Site (50010003)	No Further Action	Kodiak Drive/Fine Avenue
Elementary School No. 12 (60000988)	No Further Action	Mable Avenue
Hammet Road School Site (60000125)	No Further Action	5206 Hammett Road
Hart Ransom Union School (60000947)	No Further Action	A portion of 3930 Shoemake Avenue
Middle School No. 3 (50880002)	No Further Action	Merle Avenue/Fine Avenue
Norman Glick School Site (50010004)	No Action Required	400 Frazine Road
Prescott Middle School Site (60000108)	No Further Action	2243 West Rumble Road
Shiloh Elementary School (60002217)	No Action Required	6633 Paradise Road
Shiloh Elementary School Expansion (60000895)	No Further Action	6633 Paradise Road
Snyder Avenue Elementary (50010013)	No Further Action	2343 Snyder Avenue/2412 Warm Springs Drive
SCHOOL CLEANUP		
John F. Kennedy High School (60000966)	Certified	1900 Nadine Avenue
EVALUATION		
Cesi Dry Cleaning Center (60001423)	Inactive - Action Required	2021 Tully Road
Dry Creek Supplies (50530001)	Refer: Other Agency	118 Albers Road
Gallo Glass - South Field Landfill (50490013)	Inactive - Needs Evaluation	615 South Santa Cruz Avenue
Geer Road Landfill (50490011)	Refer: RWQCB	751 Geer Road
Georgia Pacific Corp. (50510025)	Refer: Other Agency	2400 Lapham Road
Mid County Distributors (50510012)	Refer: RWQCB	102 N 9TH ST
Mistlin Honda Inc. (50550001)	Refer: Other Agency	3120 McHenry Avenue
Modesto Disposal Services (50490009)	Refer: IWMB	2769 West Hatch Road
My Ranch Flying Service (50070030)	Refer: Other Agency	Rte. 8 313 N Gates
Pacific Southwest Container (60003431)	Inactive - Needs Evaluation	671 Mariposa Road, Suite A
PG&E Manufactured Gas Plant SQ-ST-MOD-1 (50490003)	Inactive - Needs Evaluation	Blocks of: C, D, 8th and 10th Streets
PG&E Manufactured Gas Plant SQ-ST-MOD-2 (50490004)	Inactive - Needs Evaluation	Block bound: H, F, 10th, & Alley NE of 10th

Puregro Company (50280007)	Refer: RWQCB	3348 Claus Road
Rudy Bonzi's Sanitary Landfill (50490008	Refer: RWQCB	2650 West Hatch Road
Stanislaus Chrome Plating (50340004)	Refer: Other Agency	610 N 7th Street
Sunshine Carpet & Drapery (60001418)	Inactive - Needs Evaluation	1645 Princeton Avenue
CORRECTIVE ACTION		
FMC Corporation Alkali Chemicals Div. (80001302)	Refer: SMBRP	1200 Barium Road
Modesto Junk Co. (60003416)	Active	1403 - 1425 9th Street
USIS DBA G-3 Enterprises Label Division (80001424)	No Action Required	2612 Crows Landing Road
TIERED PERMIT		
The Modesto Bee (71002882)	Inactive - Needs Evaluation	1325 H Street
NON-OPERATING		
Cravey X-Ray Serv. Inc. (CAD982321879)	Closed	1005 E Street
FMC Corporation (CAD000625798)	Closed	1200 Graphics Drive
G-3 Enterprises Label Division (CAD056186596)	Protective Filer	2612 Crows Landing Road

SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTOR DATABASE, 2024.

The Department of Toxic Substances Control (DTSC) has identified an area on West Service Road, approximately eight (8) miles southwest of Central Modesto, as a state response site. The DTSC provides the following information about the site in its Site Mitigation and Brownfields Reuse Program EnviroStor database (Department of Toxic Substances Control 2007).

The Gallo Glass–Sisk Ranch site is part of a parcel owned by Sisk Ranch that was filled with 1,500 cubic yards of chromium contaminated furnace brick from the Gallo Glass manufacturing facility. Chromium leached from the bricks and contaminated the groundwater beneath the site and Evans Orchard, the adjacent property. The groundwater contaminated with chromium reached a depth of approximately 110 feet below the ground surface.

In October 1986, the contaminated bricks and soil were removed as an interim remedial measure. To address groundwater contamination at the Gallo Glass Sisk Ranch site, a remedial action plan (RAP) was completed in February 1991. The RAP specified that groundwater be extracted and treated to below the drinking water maximum contaminant level for chromium with a chemical treatment system. In 1994, the DTSC approved the design of an expanded groundwater treatment system, which included the addition of three monitoring wells to verify capture, two extraction wells to increase the zone of capture, and two leach lines to increase the capacity for treated groundwater disposal.

Final remedial actions at the Gallo Glass–Sisk Ranch site, as identified in an operation and maintenance plan certified by the DTSC in June 1995 and as described in the "Enforceable Agreement" between the Gallo Glass company and the DTSC, dated June 30, 1995, included groundwater extraction, chemical treatment, and the reintroduction of treated groundwater into the aquifer via percolation ponds and leach lines.

IMPLEMENTATION, MONITORING, AND REPORT ACTIVITIES

In accordance with the June 1995 Enforceable Agreement between the Gallo Glass company and the DTSC, five-year review reports for the site were submitted by Gallo Glass to the DTSC on August 21, 2000, and October 28, 2005. Based on a review of the 2000 report, the DTSC determined that remedial actions at the site remained protective of human health and the environment. No areas of the site were in noncompliance with the selected remedial actions, the operation and maintenance plan, or the operation and maintenance agreement. In 2001, all the site groundwater monitoring wells showed chromium levels to be below the cleanup goal of 50 parts per billion (drinking water standard). Accordingly, the DTSC allowed Gallo Glass to shut down the on-site groundwater extraction and treatment system and continue monitoring the groundwater monitoring well network. From 2003 onward, elevated concentrations of chromium were found in one monitoring well located on the northwestern edge of the historical plume. Consequently, in its review of the 2005 report, the DTSC determined that Gallo Glass needs to implement additional remedial actions to meet the objectives of the RAP. The DTSC requested that Gallo Glass submit a revised five-year review report to address the increased levels of chromium discovered in the single well (Patenaude pers. comm.). The DTSC currently is reviewing and responding to Gallo Glass's revised five- year review report (Patenaude pers. comm.).

SUPERFUND SITES

The U.S. Environmental Protection Agency (EPA) has identified an area near McHenry and Roseburg Avenues (the "Modesto Ground Water Contamination" site), identified in Table 3.8-1 as "Modesto Groundwater Contamination (50720008)", as a Superfund site. The Superfund regulations are discussed below under *Federal Regulations*. The EPA, Region IX, provides the following information.

The Modesto groundwater contamination site has groundwater contamination linked to Halford's Cleaners at 941 McHenry Avenue, which discharged tetrachloroethylene (PCE) into the City sewer and leaked PCE into the soil and groundwater over a period of approximately 50 years. An unknown quantity of PCE was released. The dry-cleaning equipment that led to the release has been replaced with modern equipment, and PCE is no longer being discharged into the sewer. An underground storage tank (UST) at the cleaners has been removed and remediated.

The dry cleaner is located approximately 1,200 feet from a municipal water well. When the City began monitoring groundwater in 1984, Municipal Well 11 was found to be contaminated with PCE above the allowable drinking water standard. The City took the well out of service, and a granular activated carbon treatment system was installed in June 1991 to remove the PCE contamination from the groundwater. Municipal Well 11 was shut off in October 1994 because it was found to be contaminated with low levels of naturally occurring uranium that are slightly above the allowable drinking water level. Municipal Well 11 may never be returned to service as a source of drinking water because of the cost of removing the naturally occurring uranium.

Information on the soil and groundwater contamination at the site was collected during a removal assessment in 1990, and a soil vapor extraction system was installed to address shallow soil

contamination. Subsequent investigations determined that no immediate actions were required, and the soil vapor extraction system has been turned off until a final remedy is selected. The EPA performed preliminary investigations and determined that no immediate actions were required while the final cleanup is being planned.

The EPA completed Phase 1 and Phase 2 investigations and is conducting a Phase 3 investigation to determine the nature and extent of contamination. Remediation activities have begun on a portion of the site.

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

There is one identified Cortese List located in the Modesto planning area. The site identified in Table 3.8-1 as "Modesto Groundwater Contamination (50720008)" has been placed on the Cortese List as a Federal Superfund site. The details of this site are explored below.

Groundwater Source Pollution

LEAKING UNDERGROUND STORAGE TANKS

GeoTracker is the California Water Resources Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program) as week as permitted facilities such as operating USTs and land disposal sites.

TABLE 3.8-2: MODESTO LUST CLEANUP SITES (GEOTRACKER)

NAME	*ACTIVITY*	*LOCATION*
OPEN CASES		
BK'S LIQUORS AND FOODS (FORMER)	OPEN - ELIGIBLE FOR CLOSURE	150 NORTH RIVERSIDE DRIVE
ELWOOD'S DRY CLEANER	OPEN - REMEDIATION	441 MCHENRY AVE
CLOSED CASES (CLEANUP COMPLETED)		
	COMPLETED - CASE CLOSED	1045 OAKDALE ROAD
A & B TRUCK REPAIR	COMPLETED - CASE CLOSED	959 NINTH ST.
ACME CONSTRUCTION	COMPLETED - CASE CLOSED	1565 CUMMINS
ALFRED MATTHEWS	COMPLETED - CASE CLOSED	3807 MCHENRY
AMERICAN DISTRIBUTING CO. CASE#2	COMPLETED - CASE CLOSED	541 KANSAS
ARCO STATION # 2182	COMPLETED - CASE CLOSED	1404 MCHENRY
ARCO # 1321	COMPLETED - CASE CLOSED	903 FIFTH
ARCO # 5553	COMPLETED - CASE CLOSED	3001 YOSEMITE

ARCO # 5627	COMPLETED - CASE CLOSED	1700 HATCH
ARCO # 6043	COMPLETED - CASE CLOSED	2101 TULLY
ARCO # 6196	COMPLETED - CASE CLOSED	2519 COFFEE
ARCO #2063 (CASE #2)	COMPLETED - CASE CLOSED	2924 MCHENRY
ARCO #2078	COMPLETED - CASE CLOSED	2099 W ORANGEBURG AVENUE
ARCO - T AND T	COMPLETED - CASE CLOSED	402 DOWNEY AVENUE
ARCO AM PM # 5493 CASTILLOS	COMPLETED - CASE CLOSED	1225 CARPENTER
ARCO AM/PM # 5505	COMPLETED - CASE CLOSED	2033 STANDIFORD
ARCO SERVICE STATION	COMPLETED - CASE CLOSED	901 NINTH
ARCO STATION # 2063 CASE#1	COMPLETED - CASE CLOSED	2924 MCHENRY
ARMORED TRANSPORT INC.	COMPLETED - CASE CLOSED	204 MAZE
B AND B TRUCKING	COMPLETED - CASE CLOSED	6224 STODDARD
BARNARD GEORGIA	COMPLETED - CASE CLOSED	1426 SCENIC
BEACON # 499	COMPLETED - CASE CLOSED	1700 YOSEMITE
BEACON # 632 AKA SAI ARCO	COMPLETED - CASE CLOSED	2241 YOSEMITE
BEACON DOWNTOWN	COMPLETED - CASE CLOSED	801 SEVENTH
BILLS REPAIR SHORT PROPERTY	COMPLETED - CASE CLOSED	1825 SPOKANE STREET
BOYETT PETROLEUM	COMPLETED - CASE CLOSED	1533 COFFEE
BRAZIL CHEVRON	COMPLETED - CASE CLOSED	2600 COFFEE
BRIDGE POINT PROPERTY	COMPLETED - CASE CLOSED	107 RIVERSIDE
CA HIGHWAY PATROL	COMPLETED - CASE CLOSED	2067 WEST ORANGEBURG AVENUE
CAL TRANS	COMPLETED - CASE CLOSED	908 EMERALD
CALTRANS THOMAS PROPERTY	COMPLETED - CASE CLOSED	1133 THIRTEENTH
CALTRANS	COMPLETED - CASE CLOSED	211 GRAND
CALTRANS - STUMP REMOVAL	COMPLETED - CASE CLOSED	L ST
CARRIAGE TRADE	COMPLETED - CASE CLOSED	2512 COFFEE
CERTIFIED TRANSMISSION	COMPLETED - CASE CLOSED	2068 LAPHAM
CHEVRON # 90883 CASE 1	COMPLETED - CASE CLOSED	815 KANSAS
CHEVRON # 90883 CASE 2	COMPLETED - CASE CLOSED	815 KANSAS
CHEVRON # 91381	COMPLETED - CASE CLOSED	912 NINTH
CHEVRON NO. 96397	COMPLETED - CASE CLOSED	1600 SISK ROAD
CHEVRON STATION # 92846	COMPLETED - CASE CLOSED	3300 MCHENRY
CHEVRON STATION # 95923	COMPLETED - CASE CLOSED	1403 MCHENRY
CHRISTIAN SALVAGE STORAGE	COMPLETED - CASE CLOSED	2050 LAPHAM DRIVE
CIRCLE K # 3624	COMPLETED - CASE CLOSED	2013 PRESCOTT
CITGO 711(CASE 1)	COMPLETED - CASE CLOSED	1045 OAKDALE
CITY TOWERS	COMPLETED - CASE CLOSED	801 TENTH
CLARATINA VILLAGE LTD	COMPLETED - CASE CLOSED	4116 MCHENRY
CLARENCE MARTIN RESIDENCE	COMPLETED - CASE CLOSED	3019 BLUEGUM
COOK MARTKETPLACE	COMPLETED - CASE CLOSED	500 NINTH
CUMMINS CORP	COMPLETED - CASE CLOSED	1030 KANSAS
CURACARE INC.	COMPLETED - CASE CLOSED	1350 LONE PALM
DARPETRO EXXON	COMPLETED - CASE CLOSED	1432 NINTH
DARPETRO / USA GAS	COMPLETED - CASE CLOSED	2501 OAKDALE
DARPETRO INC	COMPLETED - CASE CLOSED	1517 MORGAN RD
DISCOUNT AUTO ELECTRIC	COMPLETED - CASE CLOSED	833 YOSEMITE BLVD.
DONALD P LATOURETTE TRUST	COMPLETED - CASE CLOSED	2041 RIVER

DRYDEN GOLF COURSE	COMPLETED - CASE CLOSED	920 NEECE
E AND J GALLO	COMPLETED - CASE CLOSED	808 YOSEMITE
ER VINES AND SONS FUELING	COMPLETED - CASE CLOSED	1217 SEVENTH
EVERGREEN CONVALESCENT CARE CENTER	COMPLETED - CASE CLOSED	2030 EVERGREEN AVENUE
EXPRESS GAS	COMPLETED - CASE CLOSED	3405 MCHENRY
EXPRESS GASOLINE	COMPLETED - CASE CLOSED	1800 PRESCOTT #B
EXXON # 232 AKA CURTESY OIL	COMPLETED - CASE CLOSED	1541 CROWSLANDING
FAIRBANKS TRUCKING	COMPLETED - CASE CLOSED	801 OREGON
FARMERS WAREHOUSE	COMPLETED - CASE CLOSED	1029 EIGHTH
FAST MART	COMPLETED - CASE CLOSED	3955 COFFEE ROAD
FIRESIDE DODGE	COMPLETED - CASE CLOSED	4620 MCHENRY
FIVE MINUTE CAR WASH	COMPLETED - CASE CLOSED	448 MCHENRY
FONTANA PROPERTY AKA HONDA	COMPLETED - CASE CLOSED	NINTH / K
FOSTER FARMS DAIRY AKA 1701	COMPLETED - CASE CLOSED	1707 MCHENRY
FOSTER FARMS, AMERICAN DISTRIBUTING CO.	COMPLETED - CASE CLOSED	541 KANSAS AVENUE
G AND G CARDLOCK	COMPLETED - CASE CLOSED	526 SIXTH
G I TRUCKING	COMPLETED - CASE CLOSED	112 SPENKER
GALAS FIVE MINUTE CAR WASH	COMPLETED - CASE CLOSED	1109 MCHENRY
GAS N GO CASE # 1	COMPLETED - CASE CLOSED	1200 SIXTH
GAS N GO CASE #2	COMPLETED - CASE CLOSED	1200 SIXTH
GAS N SHOP MINI MART	COMPLETED - CASE CLOSED	837 S. NINTH STREET
GASCO SERVICE STATION	COMPLETED - CASE CLOSED	1233 STANDIFORD
GASCO SERVICE STATION	COMPLETED - CASE CLOSED	1510 MILLER
GILROY FOODS CASE # 2	COMPLETED - CASE CLOSED	705 WHITMORE
GILS DAIRY DELIVERY	COMPLETED - CASE CLOSED	435 MAZE
GILTON SOLID WASTE MGT	COMPLETED - CASE CLOSED	1722 MONO
GLEN WILSON TRUCKING	COMPLETED - CASE CLOSED	2936 FARRAR
GLENWOOD MINIMART	COMPLETED - CASE CLOSED	2307 OAKDALE
GRAND AUTO FMR	COMPLETED - CASE CLOSED	2500 MCHENRY
HANS OMLIN	COMPLETED - CASE CLOSED	2131 STONE
HART RAMSOM UNION SCHOOL	COMPLETED - CASE CLOSED	3930 SHOEMAKE
HELENA CHEMICAL	COMPLETED - CASE CLOSED	312 SERVICE RD W
HOAGLAND TRANSPORT	COMPLETED - CASE CLOSED	445 BYSTRUM AKA 460 BYSTRUM
J. S. WEST PROPANE CO.	COMPLETED - CASE CLOSED	401 NINTH STREET AKA 813 D STREET
JAMES HORN CONSTRUCTION	COMPLETED - CASE CLOSED	3225 YOSEMITE
JIM ASBILLS AUTO SALES	COMPLETED - CASE CLOSED	401 FOURTEENTH
JM KECKLER MEDICAL	COMPLETED - CASE CLOSED	2084 YOSEMITE
JOE'S FOOD MART	COMPLETED - CASE CLOSED	4955 CROWS LANDING ROAD
JOES MINIMART	COMPLETED - CASE CLOSED	706 SUTTER
KWIK SERVE	COMPLETED - CASE CLOSED	901 PARADISE RD
L AND E AUTO SHORT PROPERTY	COMPLETED - CASE CLOSED	1411 YOSEMITE BOULEVARD
L AND M DISTRIBUTING	COMPLETED - CASE CLOSED	2300 HOOVER
LEPRINO TRANSPORTATION	COMPLETED - CASE CLOSED	400 WINMORE
LOPES TRUCKING SERVICE	COMPLETED - CASE CLOSED	2127 CARPENTER

MAGNOLIA AVE HEATING OIL TANK	COMPLETED - CASE CLOSED	231 MAGNOLIA AVENUE
MAHONEY MOTORS / UNOCAL	COMPLETED - CASE CLOSED	1002 NINTH
MAJOR SYSCO	COMPLETED - CASE CLOSED	136 MARIPOSA
MC WILLIAMS LUMBER CO.	COMPLETED - CASE CLOSED	1161 CARVER RD.
MCCLANAHAN PROPERTY	COMPLETED - CASE CLOSED	1231 EIGHTH
MCHENRY ISUZU	COMPLETED - CASE CLOSED	931 MCHENRY
MCKENNA RESIDENCE	COMPLETED - CASE CLOSED	3213 CLARIBEL
MIKE'S AUTO REPAIR	COMPLETED - CASE CLOSED	2509 COFFEE
MISTLIN HONDA, INC.	COMPLETED - CASE CLOSED	3120 MCHENRY AVE.
MODESTO BEE	COMPLETED - CASE CLOSED	1325 H ST.
MODESTO CITY BUS YARD	COMPLETED - CASE CLOSED	110 ELM
MODESTO CITY FIRE STATION	COMPLETED - CASE CLOSED	200 BRIGGSMORE
MODESTO CITY CORP YARD	COMPLETED - CASE CLOSED	501 JEFFERSON
CITY OF MODESTO COUNTY AIRPORT	COMPLETED - CASE CLOSED	700 TIOGA
CITY OF MODESTO FIRE STATION # 1	COMPLETED - CASE CLOSED	610 ELEVENTH
CITY OF MODESTO GARAGE	COMPLETED - CASE CLOSED	621 ELEVENTH
CITY OF MODESTO HOSPITAL FMR.	COMPLETED - CASE CLOSED	730 SEVENTEENTH
CITY OF MODESTO JUNIOR COLLEGE	COMPLETED - CASE CLOSED	501 COLLEGE
MODESTO CITY SCHOOL DISTRICT	COMPLETED - CASE CLOSED	1524 WOODLAND
MODESTO CONVENTION CENTER	COMPLETED - CASE CLOSED	TENTH & L
MODESTO FIRE STATION #4	COMPLETED - CASE CLOSED	1505 BLUEGUM
MODESTO LUMBER COMPANY	COMPLETED - CASE CLOSED	621 NINTH
MODESTO TALLOW CO.	COMPLETED - CASE CLOSED	925 CROWS LANDING ROAD
MODESTO TRANSFER AND STORAGE	COMPLETED - CASE CLOSED	1231 EIGHTH
MOTOWN TRUCK REPAIR	COMPLETED - CASE CLOSED	536 NINTH
OAK FURNITURE MART	COMPLETED - CASE CLOSED	1021 MCHENRY
ORVIS BROTHERS SLAUGHTERHOUSE	COMPLETED - CASE CLOSED	725 ZEFF ROAD
PACIFIC MARKET	COMPLETED - CASE CLOSED	131 COLFAX
PAHLMEYER PROPERTY	COMPLETED - CASE CLOSED	339 PARADISE
PARADISE ROCKET SHORT PROPERTY (FORMER)	COMPLETED - CASE CLOSED	505 PARADISE ROAD
PARNELLI JONES	COMPLETED - CASE CLOSED	1120 CARPENTER
PENNYWISE	COMPLETED - CASE CLOSED	937 PARADISE
PENNYWISE GAS # 2	COMPLETED - CASE CLOSED	1230 CROWSLANDING
PEPSI COLA DISTRIBUTING CO.	COMPLETED - CASE CLOSED	200 RIVER
PETER JOHANSON SCHOOL	COMPLETED - CASE CLOSED	712 CLAUS
PG AND E SERVICE CENTER	COMPLETED - CASE CLOSED	1524 CARPENTER
PHILLIPS AKA PALMQUIST TRUST	COMPLETED - CASE CLOSED	801 FIFTH
PHILLIPS ELECTRIC	COMPLETED - CASE CLOSED	116 ORANGEBURG
QUICK STOP # 87	COMPLETED - CASE CLOSED	1500 CROWSLANDING
QUIK STOP MARKET # 45	COMPLETED - CASE CLOSED	818 CARPENTER
RONS AUTO REPAIR	COMPLETED - CASE CLOSED	1404 CARPENTER
ROSEMARY WINFIELD	COMPLETED - CASE CLOSED	701 SUTTER
ROYAL HOTEL	COMPLETED - CASE CLOSED	917 J AKA 922 J
SAN FRANCISCO FRENCH BREAD CO	COMPLETED - CASE CLOSED	1827 CLAYTON
SATAKE USA INC	COMPLETED - CASE CLOSED	3416 OAKDALE
SCENIC SHELL CASE # 1	COMPLETED - CASE CLOSED	800 OAKDALE
SELF SERVE OIL COMPANY	COMPLETED - CASE CLOSED	302 NINTH

SERVICE AMERICA SITE FMR	COMPLETED - CASE CLOSED	542 MARIPOSA
SEVEN 11 # 21154	COMPLETED - CASE CLOSED	505 MCHENRY
SEVEN 11# 20912	COMPLETED - CASE CLOSED	1201 TULLY
SEVEN 11# 2721 15909 FMR	COMPLETED - CASE CLOSED	2716 COFFEE
SHELL EQUIVA CASE #2 AKA SHERWOOD SHELL	COMPLETED - CASE CLOSED	3225 MCHENRY
SHELL AKA GRIFFEN AKA EQIVA	COMPLETED - CASE CLOSED	1467 MITCHELL
SHELL CASE 1	COMPLETED - CASE CLOSED	3225 MCHENRY
SHELL FOOD MART	COMPLETED - CASE CLOSED	820 KANSAS
SHELL OIL CASE #1	COMPLETED - CASE CLOSED	1606 SISK
SHELL OIL PRODUCTS CASE # 2	COMPLETED - CASE CLOSED	800 OAKDALE ROAD
SHELL SERVICE STATION CASE #2	COMPLETED - CASE CLOSED	1606 SISK
SHELL SERVICE STATION CASE #2	COMPLETED - CASE CLOSED	1400 COFFEE
SHELL SERVICE STATION CASE# 1	COMPLETED - CASE CLOSED	1400 COFFEE
SHERWOOD EXXON	COMPLETED - CASE CLOSED	2201 MCHENRY
SIMON PROPERTY	COMPLETED - CASE CLOSED	211 CAMPUS WAY
STANISLAUS COUNTY GARAGE	COMPLETED - CASE CLOSED	720 TWELVTH
STANISLAUS COUNTY JAIL	COMPLETED - CASE CLOSED	1115 H AKA 805 12TH
STANISLAUS IMPLEMENT HARDWARE	COMPLETED - CASE CLOSED	526 TENTH
STOP AND SAVE	COMPLETED - CASE CLOSED	1701 STANDIFORD
STOP AND SAVE # 8	COMPLETED - CASE CLOSED	3460 OAKDALE
STOP N SAVE # 7	COMPLETED - CASE CLOSED	3800 MCHENRY
STOP N SAVE LIQUOR	COMPLETED - CASE CLOSED	1416 CARVER
STOP N SAVE LIQUORS	COMPLETED - CASE CLOSED	904 HATCH
STORER TRANSPORTATION	COMPLETED - CASE CLOSED	3519 MCDONALD
SUNNY'S FOOD MART	COMPLETED - CASE CLOSED	2101 WEST RUMBLE ROAD
SYLVAN SCHOOL BUS YARD # A	COMPLETED - CASE CLOSED	2908 COFFEE
THE MODESTO BEE	COMPLETED - CASE CLOSED	1421 I
THE YARD	COMPLETED - CASE CLOSED	112 RIVERSIDE
THREE STAR GAS	COMPLETED - CASE CLOSED	1131 YOSEMITE BOULEVARD
TONY SALSI	COMPLETED - CASE CLOSED	5912 STODDARD
U- HAUL CENTER	COMPLETED - CASE CLOSED	837 KANSAS
U.S. POSTAL OFFICE	COMPLETED - CASE CLOSED	715 KEARNEY
UNION OIL #7274	COMPLETED - CASE CLOSED	1801 MCHENRY
UNITED FOODS INC.	COMPLETED - CASE CLOSED	330 DALY
UNITED GROCERS	COMPLETED - CASE CLOSED	536 MARIPOSA
UNOCAL # 5883	COMPLETED - CASE CLOSED	1260 ORANGEBURG
UNOCAL # 6113	COMPLETED - CASE CLOSED	3461 MCHENRY
UNOCAL #5715	COMPLETED - CASE CLOSED	1212 JOYCE
UNOCAL #7624	COMPLETED - CASE CLOSED	3037 SISK
UNOCAL BULK PLANT #0438	COMPLETED - CASE CLOSED	920 VIRGINIA
UNOCAL STATION	COMPLETED - CASE CLOSED	920 OAKDALE RD.
USA GAS # 811 AKA DARPETRO	COMPLETED - CASE CLOSED	1649 ORANGEBURG
USA GASOLINE CORP.	COMPLETED - CASE CLOSED	1626 CROWS LANDING
USA PETROLEUM AKA DARPETRO CASE #1	COMPLETED - CASE CLOSED	1649 ORANGEBURG
USA STATION # 811	COMPLETED - CASE CLOSED	1649 W. ORANGEBURG
VAN KAY INC	COMPLETED - CASE CLOSED	5518 STODDARD RD
VELLA BROTHERS	COMPLETED - CASE CLOSED	3406 KIERNAN

W. H. BRESHEARS INC. CASE 2	COMPLETED - CASE CLOSED	428 SEVENTH
W.H. BRESHEARS CASE #1	COMPLETED - CASE CLOSED	428 SEVENTH
WARDENS OFFICE AKA CENTRAL VALLEY CHRYSLER	COMPLETED - CASE CLOSED	1217 TENTH ST.
WESTERN STONE PRODUCTS/GENSTAR	COMPLETED - CASE CLOSED	1022 WOODLAND
WESTERN TRUCK CORVETTE	COMPLETED - CASE CLOSED	522 FRANKLIN
WESTURF	COMPLETED - CASE CLOSED	1149 GRAPHICS
WINSTON MANAGEMENT	COMPLETED - CASE CLOSED	YOSEMITE RUFFINO SW CORNER
YOSEMITE EXXON	COMPLETED - CASE CLOSED	1234 YOSEMITE

SOURCE: CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, GEOTRACKER DATABASE, 2024.

Leakage from USTs, particularly those installed prior to the regulatory scheme enacted in the 1980s, is a source of soil and groundwater contamination in Modesto. Contaminants typically include fuels (gasoline and diesel), waste oil, and solvents. Agricultural tank systems of more than 1,100 gallons and all nonagricultural tank systems are tested routinely and monitored for leaks. (A tank system includes an underground tank and its associated piping.) Permits must be issued as a condition of operation and include:

a) Annual precision testing;
b) Leak monitoring; and,
c) Inventory reconciliation.

Contamination generally is discovered during the routine investigation of suspected leakage or tank removal. Inspections of USTs are administered by the Stanislaus County (County) Environmental Resources Department's hazardous materials program.

The Environmental Resources Department investigates all such sites to determine the degree of contamination and the level of cleanup needed. The County works closely with the Central Valley Regional Water Quality Control Board (RWQCB) during all phases of the site investigation. The State of California sometimes serves in a lead role when it is determined that the state is better able to oversee a site.

PERMITTED UNDERGROUND STORAGE TANK (UST)

There are 138 locations within the Modesto planning area that have USTs that are permitted through the California Water Resources Control Board. Table 3.8-3 lists the location of the 138 permitted USTs in the planning area.

TABLE 3.8-3: MODESTO PERMITTED UST SITES

NAME	*LOCATION*
5 MINUTE CAR WASH	1109 OAKDALE
5TH ST ARCO AM/PM #82315	903 FIFTH
7-ELEVEN INC. #21333	1305 HERNDON RD
7-ELEVEN INC. #39212	3000 E SERVICE RD
7-ELEVEN INC. #42272	2133 YOSEMITE BLVD
A&M GAS	325 MAZE
AISLE 1 #2389	3020 FLOYD AVE STE 189

ALEX AND SONS GAS AND FOOD	706 SUTTER AVE, SUITE A
ARCO 06043	2101 TULLY RD
ARCO 07120	3001 HEALTH CARE WAY, BLDG. A
ARCO AM PM MINI MARKET	2600 COFFEE
ARCO AM/PM	3936 MITCHELL RD
ARCO AM/PM #83823	1316 YOSEMITE BLVD
ARCO AM/PM MINI MARKET	6345 OAKDALE
ARCO AM/PM MINI MARKET	2301 CROWS LANDING A
ARCO AM/PM MINI MARKET #82487	2507 NINTH
ARCO AM/PM MINI MARKET #82600	1700 E HATCH RD
AT&T CALIFORNIA - UG041	1025 13TH ST
AT&T CALIFORNIA - UG042	2728 3RD ST
BALDWIN TRUCKING	4527 CROWS LANDING
BILL'S SPORT SHOP	2001 CROWS LANDING
BONEFARE MARKET #43	145 N SANTA CRUZ
BOYETT PETROLEUM (BP # 4)	320 CODONI AVE
BOYETT PETROLEUM (BP #8)	401 NINTH & D
BOYETT PETROLEUM - BP # 3	1533 COFFEE
BPS FUEL	2099 W ORANGEBURG
BUS MAINTENANCE FACILITY	1609 8TH ST
BZ MART & GAS	1510 MILLER
CALIFORNIA HIGHWAY PATROL	4030 KIERNAN AVE
CALIFORNIA PACIFIC CONNECT INC	1606 SISK
CARMAX #7159	4300 MCHENRY AVE
CB 50 YOSEMITE BLVD OPERATING INC DBA ARCO AMPM #82352	3001 YOSEMITE BLVD
CERES LANDING	4217 MITCHELL RD
CERES PETROLEUM INC ARCO AMPM #83966	1289 E SERVICE RD
CERES SHELL	3021 FOURTH
CFS 315 MODESTO	237 E WHITMORE AVENUE
CHEVRON #1587/ #94405	1501 HERNDON
CHEVRON #201456	3900 PELANDALE
CHEVRON #207298	2101 SYLVAN
CHEVRON #309187	2225 CLARIBEL
CHEVRON #96397	1600 SISK
CIRCLE K STORES #2708843	1640 N CARPENTER RD
CITY GAS	3621 YOSEMITE
CITY MART AND GAS, INC.	837 S NINTH
COSTCO WHOLESALE #1683 (GAS STATION)	1907 CLARIBEL RD
COSTCO WHOLESALE #661	3801 PELANDALE AVE
CRYSTAL CREAMERY, INC	415 KANSAS AVE
D & G GROUP LLC	1212 JOYCE AVE
DALE 76	4506 DALE RD
DALE PETROLEUM INC CHEVRON 383270	2999 GREWAL PKWY
DBA MCHENRY ARCO AM/PM	2924 MCHENRY
DIAMOND GAS & MART	3401 YOSEMITE BLVD STE B
DIAMOND GAS AND MART #5	1200 6TH ST
DOCTORS MEDICAL CENTER OF MODESTO, INC.	1441 FLORIDA
DOSANJH PETROLEUM	4224 SALIDA
DOSANJH, INC	1225 N CARPENTER
DOWNTOWN VALERO	801 N SEVENTH
E & J GALLO SERVICE CENTER	808 YOSEMITE
E & J KWIK SERV	1700 YOSEMITE
EAGLE CHEVRON	3300 MCHENRY
EMPIRE LIQUORS 2253	5018 YOSEMITE BLVD
EXPRESS LUBE & DETAIL	1115 OAKDALE

EXPRESS MART #1	1432 NINTH ST
FAIRVIEW GENERAL STORE AND GAS	2301 FAIRVIEW C
FAST AND EASY MART #101	1400 MCHENRY
FAST MART	3955 COFFEE ROAD # A
FLOORING LIQUIDATORS INC.	2936 FARRAR
FRONTIER TOWN	3543 TULLY
GAS CITY	1521 N CARPENTER
GAS-PLUS MINI-MART	4805 YOSEMITE BLVD
GEORGE'S GAS AND GRILL	2125 CASWELL AVE
GRIP 'N' GO	2512 COFFEE
HATCH FOOD & GAS	800 W HATCH
HK 1313 PETROLEUM INC. AMPM 83454	3948 SYLVAN AVE
HK1313 PETROLEUM INC.	1400 COFFEE
HUNT & SONS INC CERES PLANT (CARDLOCK)	2825 RAILROAD AVE
JIFFY LUBE # 2498	3927 MCHENRY AVE
JIFFY LUBE #2539	1701 YOSEMITE
JOES FOOD MART	4955 CROWS LANDING
KAISER FOUNDATION HOSPITAL & PRIMARY CARE CLINIC	4601 DALE
MANN BROS TRUCK STOP INC	1201 S SEVENTH
MC HENRY PETROLEUM	3459 MC HENRY AVE
MCHENRY 76 FOOD MART	2201 MCHENRY
MCHENRY SHELL	3459 MCHENRY AVE
MITCHELL GAS & LUBE	1821 MITCHELL
MODESTO AM/PM	2033 STANDIFORD
MODESTO CHEVRON	815 KANSAS AVE
MORGAN GAS & MART	1517 MORGAN RD
OAKDALE SHELL FOODMART # 81	1728 OAKDALE RD
OLSEN SERVICE STATION	1541 CROWS LANDING
ONE STOP GAS	5913 MCHENRY
PARADISE GAS	901 PARADISE
PENNYWISE #3	937 PARADISE
PLATINUM GAS AND MARKET	2241 YOSEMITE
QUICK AND SAVE	5925 TERMINAL
QUICK SHOP N GO	2013 PRESCOTT
QUIK SHOP AND GAS	2716 COFFEE RD
QUIK STOP #154	4201 SISK
QUIK STOP #156	1301 SERVICE
QUIK STOP #45	818 N CARPENTER
QUIK STOP #71	110 LA LOMA
QUIK STOP #83	1501 PARADISE
QUIK STOP #87	1500 CROWS LANDING RD
RAHMAN GAS AND MARKET	2925 E WHITMORE
RAI'S MART	2707 PATTERSON
RIVERBANK MINI MART	3103 ATCHISON
SALIDA PETRO INC	4530 KIERNAN
SKY TREK AVIATION FUELS, INC.	825 AIRPORT
SOHAL #6	801 FIFTH A
STANISLAUS SURGICAL HOSPITAL LLC	1421 OAKDALE
STOP N SAVE LIQUORS #1	904 E HATCH
STOP N SAVE LIQUORS #10	2549 YOSEMITE
STOP N SAVE LIQUORS #2	1424 COFFEE
STOP N SAVE LIQUORS #6	1701 STANDIFORD
STOP N SAVE LIQUORS #7	3800 MCHENRY
STOP N SAVE LIQUORS #8	3460 OAKDALE
STORER TRANSPORTATION SERVICE	3519 MCDONALD AVE

SUNGOLD VENTURES, LLC	3037 SISK RD
SUPER-MAC FOOD & GAS # 2	150 N RIVERSIDE
SUPERCONVENIENCE INC	1230 CROWS LANDING
SUTTER VALLEY HOSPITALS DBA: MEMORIAL MEDICAL CENTER	1700 COFFEE
TESORO (MOBIL) #68166	1649 W ORANGEBURG
TESORO (MOBIL) 68163	1626 CROWS LANDING
TESORO (SPEEDWAY XP) #68164	1233 STANDIFORD
TESORO (SPEEDWAY XP) #68165	2501 OAKDALE RD
UNITED PACIFIC #5260	4537 BROADWAY
UNITED PACIFIC #5261	4931 MCHENRY
UNITED PACIFIC #5262	4000 E BRIGGSMORE
UNITED PACIFIC #5263	2954 E WHITMORE
UNITED PACIFIC #5265	4120 DALE STE E
UNITED PACIFIC #5268	2201 PATTERSON
UNITED PACIFIC #5269	920 OAKDALE RD
UPS - CERES	1400 HIL-MOR DR.
VALLEY PACIFIC PETROLEUM - RIVERBANK CARDLOCK	2770 PATTERSON
VILLAGE MARKET & GAS	2805 EARL ST
VINTAGE CAR WASH	1801 STANDIFORD
VK CHEVRON	1300 N CARPENTER
WHITMORE STATION INC	2080 E WHITMORE

SOURCE: CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, GEOTRACKER DATABASE, 2024.

COMMERCIAL/INDUSTRIAL POLLUTION

Nonpoint Source Pollution: Nonpoint source pollution results when pollutants, such as oil and grease, fertilizers, pesticides, bacteria associated with litter and animal wastes, and solvents and household chemicals, flow through storm drains into creeks, streams, and the Tuolumne and Stanislaus Rivers. Unlike industrial waste and sanitary wastewater, stormwater is not treated, so it carries any pollutants with it directly into the creeks, streams, and rivers. Studies have shown that these nonpoint sources are a significant contributor of pollutants that appear in these waterbodies. Pollutants flow through the storm drain system and find their way to the waterbodies after being deposited on paved surfaces or spilled into gutters. Surface runoff also can flow into the canals of the Modesto Irrigation District (MID) during heavy storms.

The City received a municipal National Pollution Discharge Elimination System (NPDES) permit for stormwater discharges from the Central Valley RWQCB. Under this permit, the City is required to develop, administer, implement, and enforce a Comprehensive Stormwater Management Program to reduce pollutants in urban runoff to the maximum extent practicable. In compliance with this requirement, the City has developed the *City of Modesto Stormwater Management Program: Guidance Manual for New Development Stormwater Quality Control Measures* (City of Modesto 2001a). The manual includes specific design requirements for minimizing pollutant runoff.

Transfer Stations, Storage Areas, and Landfills: The potential for a release of hazardous materials exists whenever solid waste is transported or transferred. Once waste is deposited into landfills, the potential exists for groundwater contamination because of leachate. The County operates the Fink Road Landfill on the west side of Interstate 5 under permit from the California Integrated Waste Management Board (CIWMB). The Fink Road Landfill is the primary repository for Modesto's solid waste.

Solid Waste Information System (SWIS)

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned, and closed sites. The City has 24 facilities that are involved in the management of solid waste service listed in the SWIS database. The site details are listed in Table 3.8-4.

TABLE 3.8-4: MODESTO SOLID WASTE FACILITIES/SITES

SWIS NUMBER	*SITE NAME*	*OPERATIONAL STATUS*	*REGULATORY STATUS*
50-AA-0002	Geer Road Landfill	Closed	Permitted
50-AA-0003	Bonzi Sanitation Landfill	Closing	Permitted
50-AA-0005	Modesto Disposal Svc TS/Res Rec Facility	Closed	Surrendered
50-AA-0011	Geer Road Temporary Transfer Station	Closed	Suspended
50-AA-0012	Gilton Resource Recovery/Transfer Facility	Active	Permitted
50-AA-0013	Bertolotti Transfer & Recycling Center	Active	Permitted
50-AA-0015	Recology Blossom Valley Organics N Hamme	Active	Permitted
50-AA-0016	Gilton Resource Recovery Composting Facility	Active	Permitted
50-AA-0017	Lyons Investments & Modesto Garbage Co.	Closed	Exempt
50-AA-0018	Modesto Co-Compost Facility	Active	Permitted
50-AA-0025	Gilton Resource Recovery CandD Proc Facility	Active	Not Currently Regulated
50-AA-0026	Valley Wood Disposal	Closed	Notification
50-AA-0051	Strategic Materials Inc.	Inactive	Notification
50-AA-0053	Organic Solution Mgmt. Co-Digester Op.	Closed	Notification
50-AA-0055	Riverbank Organics Food Waste Proc. Facility	Planned	Permitted
50-AA-0056	Halo Glass Recycling	Active	Notification
50-AA-0057	Grover Farm Management	Planned	Notification
50-CR-0008	Modesto Garbage Company Disposal Site	Closed	Pre-regulation
50-CR-0009	Modesto City Disposal Site, Airport	Closed	Pre-regulation
50-CR-0010	Modesto City Disposal Site, Muni Golf Cor	To be Determined	Pre-regulation
50-CR-0011	Modesto City DS, E/W Carpenter Road	Closed	Pre-regulation
50-CR-0012	Modesto Sand & Gravel Disposal Site	Closed	Pre-regulation
50-CR-0015	Modesto Irrigation District D.S.	Closed	Pre-regulation
50-CR-0016	Gallo Glass/Sisk Ranch Disposal Site	Closed	Pre-regulation

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, SOLID WASTE INFORMATION SYSTEM DATABASE, 2024.

HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2011), prepared by the State Division of Aeronautics, 21 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation

accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the probability of such accidents. Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions. (California Division of Aeronautics, 2011).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway. (California Division of Aeronautics, 2011).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed. (California Division of Aeronautics, 2011).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and,
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While most of the approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially since pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2002).

Local Airport Facilities

There are no private or public airport facilities within the Modesto planning area.

MODESTO CITY-COUNTY AIRPORT

The Modesto City-County Airport is located adjacent to the existing City of Modesto boundaries and is operated by Stanislaus County.

FIRE HAZARDS

Fire Hazard Severity Zones

The State has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas (SRA). In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

There are no Federal Responsibility Areas (FRA) or State Responsibility Areas (SRA) within the vicinity of the Modesto planning area. The City of Modesto is listed by CalFire as being within a Local Responsibility Area (LRA). As such, fire hazard risk is mitigated and managed by the City of Modesto Fire Department and is supported by the Stanislaus County Consolidated Fire Protection District. Additionally, there are no areas within the City of Modesto planning area that are designated as "Very High Fire Hazard Severity Zones." For these reasons, fire hazard risk is not a substantially significant threat to the City of Modesto.

3.8.2 REGULATORY SETTING

FEDERAL REGULATIONS

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. The City of Atwater is in EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, was passed to facilitate the cleanup of the nation's toxic waste sites. Superfund, which is administered by the EPA, was amended by the Superfund Amendment and Reauthorization Act (SARA), Title III (community right-to-know laws), in 1986. Title III states that past and present owners of land contaminated with hazardous substances will be held liable for the cost of the cleanup, with certain exceptions.

A hazardous substance is defined pursuant to CERCLA 42 United States Code 9601 (14), and interpreted by EPA regulations and the courts as:

1. Any substance designated pursuant to Section 1321(b)(2)(A) of Title 33 of the Code of Federal Regulations
2. Any element, compound, mixture, solution, or substance designated pursuant to Section 9602 of CERCLA

Federal regulations, implemented primarily by the federal government, apply to public and private activities.

Aviation Act of 1958

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulation (FAR) establishes regulations related to aircraft, aeronautics, and inspection and permitting.

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAWS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source

emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

Clean Water Act

The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of (Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at a High Risk from Wildfire" by the U.S. Departments of the Interior and Agriculture.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the Federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum Federal regulations and may adopt additional or more stringent regulations if they are not incompatible.

Resource Conservation and Recovery Act (RCRA) of 1976

The Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments empowers the EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, regulating the generation, transportation, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation. It regulates the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their fate in the environment. This

includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program established tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintaining UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the Environmental Protection Agency (EPA) and the Association of State and Territorial Solid Waste Management Officials coordinated to update existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of October 2019, only 43.7 percent of USTs were in compliance with all TCR categories.

STATE REGULATIONS

In California, state regulations governing hazardous materials are equal to or more stringent than federal regulations. The state has been granted primary oversight responsibility by the EPA to administer and enforce hazardous waste management programs. State regulations have detailed planning and management requirements to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key state laws pertaining to hazardous wastes are discussed below. In addition, the DTSC, the SWRCB, and the Integrated Waste Management Act regulate the generation and disposal of hazardous materials, as described below.

Hazardous Materials Release Response Plans and Inventory Act of 1985

Hazardous Materials Release Response Plans and Inventory Act of 1985(Section 25500 et seq. of the CHSC, also known as the Business Plan Act) requires businesses using hazardous materials to prepare a plan that describes their facilities, identifies materials, and describes their emergency response plans and training programs. Hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step; they are not considered hazardous wastes. Health concerns pertaining to the release of hazardous materials, however, are like those relating to hazardous wastes. Often, the facilities subject to this act also generate hazardous wastes. The plan and related reports are filed with the county. The required plan also informs emergency responders of hazardous materials.

Hazardous Waste Control Act

The Hazardous Waste Control Act (HWCA) created the state hazardous waste management program, which is like, but more stringent than, the federal RCRA program. The HWCA is implemented by regulations contained in California Code of Regulations Title 26, which describes requirements for the proper management of hazardous wastes. This includes criteria for:

1. Identification and classification;
2. Generation and transportation;
3. The design and permitting of recycling, treatment storage, and disposal facilities;
4. Treatment standards;
5. The operation of facilities and staff training, and,
6. The closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such wastes. Pursuant to the HWCA and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter and to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Quick responses to incidents involving hazardous materials or hazardous waste are a key part of the plan, which is administered by the California Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the EPA, the California Highway Patrol, RWQCBs, air quality management districts, and county disaster response offices.

Various other state regulations affect hazardous waste management. These include the regulations described below.

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) requires the labeling of substances known or suspected by the state to cause cancer.

California Government Code Section 65962.5 requires the DTSC to compile a list of potentially contaminated sites in the state (the Cortese List). The purpose of this legislation is to inform local agencies of the existence of these sites.

The DTSC and the SWRCB list hazardous sites selected for remedial action and USTs with a reported unauthorized release of toxic materials. UST cleanup is administered locally, with the SWRCB providing oversight.

The CIWMB lists all solid waste disposal facilities from which there is known migration of hazardous substances. The CIWMB also administers the California Integrated Waste Management Act, which, among other things, oversees the development and implementation of household hazardous waste disposal plans. The CIWMB enforces solid waste facilities' operational plans.

The California Environmental Protection Agency is authorized to endow qualifying local agencies with oversight and permitting responsibility for certain state programs. The agency oversees the

implementation of the Unified Program, which was created by state legislation in 1993 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs:

1. Hazardous materials release response plans and inventories (business plans);
2. The California Accidental Release Prevention (CalARP) Program;
3. The UST program;
4. Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure (SPCC) plans;
5. Hazardous waste generator and onsite hazardous waste treatment (tiered permitting) programs; and,
6. California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Material Inventory Statements.

Aeronautics Act (Public Utilities Code §21001)

The Caltrans Division of Aeronautics bases most of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses* (Pub. Util. Code §21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and CalFire are required to identify Very High Fire Hazard Severity Zones (VHFHSZ) in LRAs. Standards related to brush clearance and the use of fire-resistant materials in fire hazard severity zones are also established.

California Code of Regulations

Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands, and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application;

- Damage non-target crops or animals or any other public or private property; and,
- Contaminate public or private property or create health hazards on said property.

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Health and Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

Division 20 establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a state superfund framework that mirrors the Federal program.

Division 26 establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

California Health and Safety Code and Uniform Building Code Section 13000 et seq.

State fire regulations are set forth in §13000 *et seq*. of the California Health and Safety Code, which is divided into "Fires and Fire Protection" and "Buildings Used by the Public". The regulations provide for the enforcement of the Uniform Building Code and mandate the abatement of fire hazards.

California Vehicle Code §31600 (Transportation of Explosives)

This code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Public Resources Code

The State's Fire Safety Regulations are set forth in Public Resources Code §4290, which include the establishment of SRAs. Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone who "…*owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material"* (§4291(a)).

Food and Agriculture Code

Division 6 of the California Food and Agriculture Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The DTSC is chiefly responsible for regulating the handing, use, and disposal of toxic materials. The State Water Resources Control Board (SWRCB) regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The RWQCB oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the Federal and California Division of Occupational Safety and Health (Cal/OSHA) and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and San Joaquin Valley Air Pollution Control District. The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the SWRCB and the RWQCB. In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

LOCAL REGULATIONS

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as VR-*X,* where *X* is the discrete number).

County of Stanislaus General Plan

Pursuant to the Integrated Waste Management Act, each county within the state is required to adopt a county integrated waste management plan, part of which addresses the handling of household hazardous wastes, such as paint, motor oil, and cleaning solutions. The household hazardous waste elements for each city and the county identify programs for the safe collection, recycling, treatment, and disposal of hazardous waste. County policies, as summarized below, are relevant because they manage development in unincorporated areas within the study area.

HM-1: The County's General Plan Safety Element minimizes the effects of hazardous conditions that might cause a loss of life and property. The County Environmental Resources Department investigates all such sites to determine the degree of contamination and the level of cleanup needed. The County works closely with the DTSC and the RWQCB during all phases of the site investigation.

HM-2: The County is a Certified Unified Program Agency–authorized by the DTSC to administer a number of state programs at the local level. It regulates hazardous materials within its incorporated areas (including Modesto) and unincorporated areas. The County's role includes taking the following actions (Stanislaus County 2007).

1. Implement risk management and prevention laws to minimize chemical releases in the community.
2. Maintain a hazardous materials response team to assist police and fire agencies during transportation and industrial accidents involving chemical spills.
3. Prepare and implement the County's area plan for emergency response to chemical spills in the community.
4. Permit and inspect the removal of USTs.
5. Permit and monitor new USTs.
6. Oversee site investigation for soil and groundwater contamination and cleanup.
7. Inspect hazardous waste generators.
8. Review procedures for the storage, treatment, and disposal of hazardous wastes.
9. Prepare and implement the County's hazardous waste management plan.
10. Develop and implement the County's Household Hazardous Waste collection program.

11. Inspect medical facilities to ensure compliance with state medical waste management laws.
12. Implement hazardous materials disclosure laws (business plans) to ensure access to information about chemicals handled by businesses.

City of Modesto Urban Area General Plan

The UAGP policies for hazardous materials management apply to development within incorporated areas. These policies identify programs for the safe collection, recycling, treatment, and disposal of hazardous wastes generated within Modesto. The applicable UAGP policies are listed below.

HM-3 UAGP Policy VI.M.1: Comply with all existing federal and state laws which regulate the generation, transportation, storage, and disposal of hazardous materials.

HM-4: Require that businesses and industries using hazardous material provide mitigation measures commensurate with the hazards they bring to the community, in accordance with the most current adopted edition of the Uniform Fire Code. (UAGP Policy VI.M.2)

HM-5: In the event that site inspection or construction activities uncover chemical contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes at a parcel, the inspection report preparer shall so notify the City. The City shall notify the County Health Services Department. Under the direction of these agencies, a site remediation plan would be prepared by the project applicant.

The plan would (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards and (2) certify that the proposed remediation measures would clean up the wastes, dispose the wastes, and protect public health in accordance with federal, state, and local requirements.

Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the City.

If a parcel is found to be contaminated to a level that prohibits the proposed use, the potential for reduction of the hazard should be evaluated. Site remediation is theoretically capable of removing hazards to levels sufficiently low to allow any use at the site. In practice, both the technical feasibility of the remediation and its cost (financial feasibility) should be evaluated in order to determine the overall feasibility of locating a specific use on a specific site. In some cases, it may require restriction to industrial use or a use that involves complete paving and covering of the parcel.

In accordance with OSHA requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the City) for the protection of workers and the public. All reports, plans, and other documentation shall be added to the administrative record. (UAGP Policy VI.M.3)

HM-6: For each specific project that would generate hazardous waste, require as a condition of building permit approval that the project sponsor prepare a hazardous material transportation program. Passage through residential streets should be minimized and parking of waste haulers on residential streets should be prohibited. The City Fire Department shall review and approve the applicant's hazardous materials transportation program or, working with the applicant, modify it to the satisfaction of both parties. (UAGP Policy VI.M.4)

HM-7: Prior to the issuance of all building permits, identify the site in relation to all Comprehensive Environmental Response, Compensation and Liability Information System sites and to known or suspected uncontrolled or abandoned hazardous waste sites. All projects within 2,000 feet of these facilities should conduct hazardous materials studies as necessary to identify the type and extent of contamination, if any, and the extent of risk to human health and public safety. If necessary, a remedial action program should be developed and implemented as in UAGP Policy VI.M.3. (UAGP Policy VI.M.5)

HM-8: Applicants for building permits should determine that a site containing or formerly containing residences or farm buildings / structures has been fully investigated for the presence of hazardous materials or wastes prior to issuance of the permit. Investigation should consist of, at minimum, a Phase I environmental site assessment and a Phase II site assessment, if found necessary as a result of the Phase I assessment. The findings of the site assessment should be reported to the City and the County's Department of Environmental Resources. The appropriate remediation should occur prior to final occupancy of the approved development. (UAGP Policy VI.M.6)

City of Modesto Municipal Code

TITLE 3 – PUBLIC SAFETY

Chapter 1 – Adoption of the California Fire Code, 2022 Edition

Article 1 – Fire Code

3-1.101 – Findings for Adoption of the California Fire Code, 2022 Edition: The City Council of the City of Modesto hereby finds and determines: That the International Code Council is a private organization which has been in existence for at least three (3) years. That the California Fire Code, 2022 Edition, published by said organization, is a nationally recognized compilation of proposed rules, regulations, and standards of said organization. That said California Fire Code, 2022 Edition has been printed and published as a code in book form within the meaning of Section 50022.2 et seq. of the Government Code. That one (1) copy of the California Fire Code, 2022 Edition, certified by the City Clerk of the City of Modesto to be a true copy, has been filed for use and examination by the public in the office of the City Clerk of the City of Modesto. Sections of the California Fire Code, 2022 Edition may be referred to by the number used in said published compilation, preceded by the words "California Fire Code Section" or "Fire Code

Section", and may also be referred to by additional reference to the Modesto Municipal Code and sections therein pertaining to said California Fire Code, 2022 Edition.

The additional requirements and standards established herein are needed to properly protect the health, safety, and welfare of the existing and future residents and workers of the City of Modesto. Said requirements and standards are reasonably necessary because of local climatic, geological, and topographical conditions, and comply with existing state laws and regulations.

Amendment of the California Fire Code, 2022 Edition, is necessary so as to provide more stringent standards for fire extinguishing systems; fire hazards and hazardous materials controls are necessary to serve the public interest by reducing the risk to life and property of the citizens of Modesto because of the following climatic and topographical local conditions:

a. Summer weather conditions are very dry, hot and windy causing ordinary combustibles to be easily ignited and fires to be fast spreading;
b. Very dense fog conditions occur in winter. Reduced visibility causes delays in fire response;
c. Fire response is delayed by railroad tracks which:
    1. Divide the City from northeast between Tully Road and McHenry Venue to the west side of Ninth Street;
    2. Run parallel to Highway 99 through the City, restricting response at locations where overpasses are not provided;
    3. Run parallel to Yosemite Boulevard restricting access to the airport, Tuolumne Regional Park, and adjacent areas; and
    4. Restrict access at intersections and streets in the areas of Ninth, Tenth, D, and E Streets.
d. Modesto Irrigation Canal #3 restricts access to the neighborhoods and developments to the north and east of Briggsmore Avenue from Oakdale Road to Clause Road;
e. Fire response is delayed by rivers and creeks which:
    1. Divide the southwest area of the City and City contract areas and restrict access to these areas; and
    2. Divide the City from east to southwest along Scenic Drive.

THEREFORE, for the above reasons taken individually and cumulatively and in accordance with the authority granted in Sections 17958.5 and 17958.7 of the California Health and Safety Code, the Council of the City of Modesto expressly finds there are local climatic and topographical conditions that make the increased fire protection requirements set forth in the chapter reasonably necessary.

Article 2 – Amendments, Additions and Deletions to the 2022 California Fire Code

3-1.213 – Deposits of Hazardous Materials; Cleanup, Abatement, or Mitigation Required; Liability for Costs: Section 5003.3.1.4 of the 2022 California Fire Code is hereby adopted by reference, in addition to the following:

Responsibility for Cleanup. The person, firm or corporation responsible for an unauthorized discharge shall initiate and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction. When

deemed necessary by the Fire Code Official, cleanup may be initiated by the Fire Department or by an authorized individual or firm. Costs associated with such cleanup shall be borne by the owner, operator or other person responsible for the unauthorized discharge. The remedy provided by this section shall be in addition to any other remedies provided by law.

For purposes of this section, costs incurred by the City shall include, but shall not necessarily be limited to, the following: actual labor costs of City personnel, including worker's compensation benefits, administrative overhead; cost of equipment operation; cost of materials obtained directly by the City; and cost of any contract labor and materials. The authority to recover costs under this section shall not include actual fire suppression services that are normally or usually provided by the Fire Department.

3.1-214 – Sanitary Containers: Section 5504.3.1.1.3 of the 2022 California Fire Code is adopted by reference, in addition to the following:

Location. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law. All R-1, R-2 and R-3 zoning designations

(Ord. No. 3760-C.S., § 1, effective 5-4-23)

TITLE 5 – SANITATION AND HEALTH

Chapter 5 – Solid Waste

Article 1 – Solid Waste

5-5.107 – Explosives or Hazardous Materials: No person shall deposit in any container used for solid waste, any explosive, highly flammable, radioactive or otherwise hazardous material or substance. A violation of this section shall be punishable as a misdemeanor or administrative fine.

Chapter 6 – Wastewater Collection and Disposal

5-6.208 – Limitations on Waste Hauler Discharges: A waste hauler/user proposing to discharge septic tank, cesspool wastes or other biodegradable or compatible material into the City's facilities must have a waste hauler discharger permit as required by Section 5-6.401. Such wastewater shall be discharged only at a location specified by the City.

No waste hauler/use shall discharge constituents in excess of those specified in the respective permit based on the adopted local limits.

No waste hauler shall discharge to the City sewage system any material defined as hazardous waste by 40 CFR 261 of the Federal Resource Conservation and Recovery Act.

(Added by Ord. 3137-C.S., § 1, effective 6-17-99)

5-6.209 – Limitations on Wastewater Strength and Characteristics

a. No person shall discharge wastewater in excess of the permitted mass emission rates or limits as determined in accordance with this chapter.
b. No person shall discharge wastewater:
    1. Having a temperature higher than one hundred forty (140) degrees Fahrenheit, (sixty (60) degrees Centigrade), or which causes the temperature at the treatment plant to exceed one hundred four (104) degrees Fahrenheit (forty (40) degrees Centigrade);
    2. Having a pH less then 5.0 or greater than 12.0;
    3. Containing those pesticides and other toxic pollutants in toxic amounts, determined by the administrator of the Environmental Protection Agency in accordance with the federal Act, such other federal or State
    4. Having waters or wastes containing inorganic oils, including but not limited to motor oils, transmission oils, hydraulic fluids, gear oils, and machining oils;
    5. Any wastewater that causes a hazard to human life or creates a public nuisance;
    6. Containing flow or other materials, including, but not limited to, ammonia, chemical oxygen demand, total organic carbon, priority pollutants (as established by EPA), suspended solids, oil and grease of animals or vegetable origin, total dissolved solids, and phenolic compounds released in a discharge at a flow rate and/or concentration which will cause problems, pass through, or interference with the sewerage facilities;
    7. Producing a gaseous mixture that is ten (10) percent or greater of the lower explosion limit (LEL). Prohibited materials include, but are not limited to, gasoline, kerosine, naphtha, benzene, toluene, xylene, ethers, ketones, and alcohols;
    8. Containing material which will readily settle or cause an obstruction to the flow in the sewer resulting in interference to the same such as, but not limited to, sand, mud, glass, metal filings, diatomaceous earth, asphalt, dead animals, wood, bones, hair, and fleshes;
    9. Any wastewater causing the treatment plant effluent to show a lethal concentration of fifty percent as determined by a toxicity test of ninety-six (96) hours or less, using a percentage of the discharge and aquatic test species chosen by the Director;
    10. In violation of any applicable, federal categorical pretreatment standards, State standards or other local regulations covering wastewater disposal.

When the Director determines that a user(s) is discharging to the POTW any of the above enumerated substances in any amount which will interfere with the operation of the POTW, the Director shall: (1) Advise the user(s) of the impact of the discharge on the POTW; and (2) Take such actions as deemed necessary to correct the interference with the POTW.

(Added by Ord. 3137-C.S., § 1, effective 6-17-99)

5-6.210 – Specific Pollutant Limitations (Local Limits): No person shall discharge wastewater to the City sewerage system which (1) exhibits any characteristics which is specifically prohibited by an action of the City Council, or (2) contains constituents in excess of an specific constituent level limitations as may be set by the City Council pursuant to the 40 CFR 403.5 (b), (c), and (d). Specific pollutant limitations regarding waste characteristics and constituent limits may be

adopted by resolution. The City may also incorporate Maximum Allowable Industrial Loadings (MAIL) on a user-specific basis into wastewater discharge permits where necessary.

Any violation of a specific pollutant limitation as may be set forth in a City resolution shall subject the user to the same administrative actions, penalties, and enforcement actions as would be available for any other violation of this chapter.

(Added by Ord. 3137-C.S., § 1, effective 6-17-99)

Chapter 9 – Stormwater Management and Discharge Controls

Article 1 – Title, Purpose and General Provisions

5-10.108 – Abatement of Hazardous Materials: Nothing in this chapter is intended to diminish or to preempt the authority of the Fire Department to investigate, cleanup or to abate the effects of any hazardous materials under State law or applicable sections of this Code, and any such actions of the Fire Department shall be in addition to and not in place of measures set forth in this chapter.

(Ord. 3355 § 1, effective 10-8-04)

Article 2 – Discharge Regulations and Requirements

5-10.201 – Prohibited Activities

a. Illicit Discharge. Any illicit discharge to the City's MS4 is prohibited unless excepted by Section 5-10.202. All discharges to the City's MS4 of material other than storm water must be in compliance with an NPDES permit issued for the discharge or other regulatory requirement issued pursuant to the Porter-Cologne Water Quality Control Act if an NPDES permit is not required or applicable.
b. Discharge in Violation of Permit. Any discharge that would result in or contribute to a violation of the City's existing or future municipal NPDES permit and any amendment revision or reissuance thereof, either separately considered or when combined with other discharges, is a violation of this chapter and is prohibited. Liability for any such discharge shall the responsibility of the person(s) causing or responsible for the discharge, as well as the parcel owner on whose property the discharge occurs, who shall be strictly liable for its consequences, and such persons and/or owners shall defend, indemnify and hold harmless the City in any administrative or judicial enforcement action relating to such discharge.
c. Illicit Connectors: It is a violation of this chapter and is prohibited to construct, establish, use, maintain, operate, or continue an illicit connection to the City's MS4 or cause, permit or suffer any agent, employee, or independent contractor to do so. This prohibition against illicit connections is retroactive and applies to unpermitted connections made in the past, regardless of whether permissible under the law or practices applicable or prevailing at the time of the connection.

d. Roof Run-off. Domestic roof drain leaders may not drain directly to sidewalks and gutters. Any practical method must be administered to discharge roof run-off into permeable areas.
e. Private Drains. Storm water or surface water which is causing flooding on private property served by an on-site storm drainage system may not be discharged to the City's MS4.
f. Swimming Pool Water. Discharge of water from a swimming pool, hot tub or spa into the City's MS4 is prohibited.

TITLE 9 -BUILDING REGULATIONS

Chapter 4 – Floodplain Management

Article 3 – General Provisions

9-4.302 – Basis for Establishing Special Flood Hazard Zones: The special flood hazard areas identified by the Federal Emergency Management Agency (FEMA) in the "Flood Insurance Study (FIS) for City of Modesto, California, Stanislaus County" dated August 15, 1980, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of these floodplain management regulations. This FIS and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this chapter and which are recommended to the City Council by the Floodplain Administrator. The study, FIRM's and FBFM's are on file at 1010 10th Street, Suite 4100, Modesto California 95353.

Article 5 – Provisions for Flood Hazard Reduction

9-4.501 – Standards of Construction: In all special flood hazard areas, the following standards are required:

a. Anchoring. All new construction and substantial improvements of structures, including manufactured homes, shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
b. Construction Materials and Methods. All new construction and substantial improvements of structures, including manufactures homes, shall be considered:
    1. With flood-resistant materials, and utility equipment resistant to flood damage for areas below the base flood elevation;
    2. Using methods and practices that minimize flood damage;
    3. With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
c. Elevation and Floodproofing.
    4. Residential Construction. All new construction or substantial improvements of residential structures shall have the lowest floor, including basement:

i. In AE, AH, A1-30 zones, elevated to or above the base flood elevation;
ii. In A zone, without BFE's specified on the FIRM (unnumbered A zone), elevated to or above the base flood elevation, as determined under Section 9-4. 402(c).

Upon the completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered civil engineer or licensed land surveyor, and verified by the community building inspector to be properly elevated. Such certification and verification shall be provided to the Floodplain Administrator.

5. Residential Construction. All new construction or substantial improvements of residential structures shall have the lowest floor, including basement:
   i. Floodproofed, together with attendant utility and sanitary facilities, below the elevation recommended under Section 9-4.501(c)(1), so that the structure is watertight with walls substantially impermeable to the passage of water;
   ii. Structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
   iii. Be certified by a registered civil engineer or architect that the standards set forth in subsections (c)(2)(i) and (c)(2)(ii) of this section are satisfied. Such certification shall be provided to the Floodplain Administrator.
6. Flood Openings. All new construction and substantial improvements of structure with fully enclosed areas below the lowest floor (excluding basements) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must meet the following minimum criteria:
   i. For non-engineered openings:
      a. Have a minimum of two (2) openings on different sides having a total net area of not less than (1) square inch for every square foot enclosed area subject to flooding;
      b. The bottom of all openings shall be no higher than one (1) foot above grade;
      c. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exist of floodwater; and
      d. Buildings with more than one (1) enclosed area must have openings on exterior walls for each area to allow floodwater to directly enter; or
   ii. Be certified by a registered civil engineer or architect that the standards set forth in subsection (c)(3)(i) of this section are satisfied. Such certification shall be provided to the Floodplain Administrator.
7. Manufactured Homes.
   i. Manufactured homes located outside of manufactured home parks or subdivisions shall meet the elevation and floodproofing requirement in subsection (c) of this section.

ii. Manufactured homes placed within manufactured home parks or subdivisions shall meet the standards in Section 9-4.504.

8. Garages and Low-Cost Accessory Structures
   i. Attached Garages.
      a. A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry of floodwaters in accordance with subsection (c)(3) of this section. Areas of the garage below the BFE must be constructed with flood-resistant materials in accordance with subsection (b) of this section.
      b. A garage attached to a nonresidential structure must meet the above requirements or be dry floodproofed. For guidance on below-grade parking areas, see FEMA Technical Bulletin TB-6.
   ii. Detached Garages and Accessory Structures.
      a. Accessory structures used solely for parking (two (2) car detached garages or smaller) or limited storage (small, low-cost sheds), as defined in Article 2 of this chapter, may be constructed such that its floor is below the base flood elevation, provided the structure is designed and constructed in accordance with the following requirements:
         1. Use of the accessory structure must be limited to parking or limited storage;
         2. The portions of the accessor structure located below the BFE must be built using flood-resistant materials;
         3. The accessory structure must be adequately anchored to prevent flotation, collapse and lateral movement;
         4. Any mechanical and utility equipment in the accessor structure must be elevated or floodproofed to or above the BFE;
         5. The accessory structure must comply with floodplain encroachment provisions in 9-4.506; and
         6. The accessory structure must be designed to allow for the automatic entry of floodwaters in accordance with subsection (c)(3) of this section.
         7. The accessory structure is one story and not larger than 600 square feet in area when located in special flood hazard areas other than coastal high hazard areas.
      b. Detached garages and accessory structures not meeting the above standards must be constructed in accordance with all applicable standards in this section.

9-4.502 – Standards for Utilities

a) All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate:
   1. Infiltration of floodwaters into the systems; and

2. Discharge from the systems into floodwaters.

b) On-site waste disposal systems shall be located to avoid impairment to them, or contamination from them during flooding.

9-4.503 – Standards for Subdivisions and Other Proposed Development.

a. All new subdivisions proposals and other proposed development, including proposals for manufactured home parks and subdivisions shall:
   1. Identify the special flood hazard areas and base flood elevations;
   2. Identify the elevations of lowest floors of all proposed structures and pads on the final plans;
   3. If the site is filled above the base flood elevation, the following as-built information for each structure shall be certified by a registered civil engineer or licensed land surveyor and provided as part of an application for a Letter of Map Revision based on Fill (LOMR-F) to the Floodplain Administrator:
      i. Lowest floor elevation,
      ii. Pad elevation,
      iii. Lowest adjacent grade.
b. All subdivision proposals and other proposed development shall be consistent with the need to minimize flood damage.
c. All subdivision proposals and other proposed development shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
d. All subdivisions and other proposed development shall provide adequate drainage to reduce exposure to flood hazards.

9-4.504 – Standards for Manufactured Homes Within Manufactured Home Parks or Subdivisions: All manufactured homes in special flood hazard areas shall meet the anchoring standards in Section 9-4.501(a), construction materials and methods requirements in Section 9-4.501(b), flood openings requirements in Section 9-4.501(c)(3), and garages and low-cost accessory structure standards in Section 9-4.501(c)(5).

Manufactured homes located outside of manufactured home parks or subdivisions shall meet the elevation and floodproofing requirement in Section 9-4.501(c).

a. All manufactured homes that are placed or substantially improve, on sites located: (1) in a new manufactured home park or subdivision; (2) in an expansion to an existing manufactured home park or subdivision; (3) or in an existing manufactured home park or subdivision on a site upon which a manufactured home has incurred "substantial damage" as the result of a flood shall:
   1. Within zones A1-30, AH, an AE on the City's Flood Insurance Rate Map that are not subject to the provisions of subsection (a) of this section will be securely fastened to an adequately anchored foundation system to resist flotation, collapse, and lateral movement, and be elevated so that either the:

i. Lowest floor of the manufactured home is at or above the base flood elevation; or
ii. Manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in height above grade.

Upon the completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered civil engineer or licensed land surveyor, and verified by the Chief Building Official or designee to be properly elevated. Such certification and verification shall be provided to the Floodplain Administrator.

9-4.505 – Standards for Recreational Vehicles

a. All recreational vehicles placed in zones A1-30, AH, and AE will either:
   1. Be on the site for fewer that on hundred eighty (180) consecutive days; or
   2. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
   3. Meet the permit requirements of Section 9-4.403 of this chapter and the elevation and anchoring requirements for manufactures homes in Section 9-4.504(a).

9-4.506 – Floodways: Since floodways are an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply.

a. Until a regulatory floodway is adopted, no new construction, substantial development, or other development (including fill) shall be permitted within zones A1-30 and AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the City of Modesto.
b. Encroachment within an adopted regulatory floodway are prohibited including fill, new construction, substantial improvements, and other development, unless certification by a registered civil engineer is provided demonstrating that the proposed encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.
c. If subsections (a) and (b) of this section are satisfied, all new construction, substantial improvement, and other proposed new development shall comply with all other applicable flood hazard reduction provisions of Article 5 of this chapter.

TITLE 10 ZONING REGULATIONS

Chapter 4 – Floodplain Management

Article 3 – General Provisions

9-4.302 – Basis for Establishing Special Flood Hazard Zones

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G, Section VIII, of the State CCEQA Guidelines describes eight (8) significant impact types related to hazards and hazardous materials. The UAGP would have a significant effect relative to hazards and hazardous materials within Modesto if it would or may.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
b) Create a significant hazard to the public or the environment through reasonably foreseeable-upset and accident conditions involving the release of hazardous materials into the environment;
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing, or proposed school;
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or environment;
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or,
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.

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- 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;
- 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;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

IMPACTS AND MITIGATION MEASURES

Impact 3.8.1: The Project would not 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 involving the release of hazardous materials into the environment (Less than Significant)

Implementation of the UAGP would lead to urban development that would require occasional transport, use and disposal of hazardous materials and wastes, which could result in reasonably foreseeable accident conditions involving the release of hazardous materials into the environment. Both the County of Stanislaus and the City of Modesto implement a Hazardous Waste Management Plan that serves as the guideline for managing hazardous wastes. This plan provides direction to the hazardous materials response team to assist police and fire agencies during transportation and industrial accidents involving chemical spills.

Implementation of the UAGP would result in additional urban development. Construction equipment typical of many development projects has the potential to release oils, greases, solvents, and other finishing materials through accidental spills. Spill or upset of these materials would have the potential to affect surrounding properties. However, the consequences of construction-related spills are not as great as other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small—the volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including a SWPPP and BMPs by appropriate local and state agencies (i.e., fire departments) would minimize the potential for an accidental release of petroleum products and/or hazardous materials during construction. Federal, state, and local controls have been enacted, and are enforced, to reduce the effects of potential hazardous materials spills during construction of program facilities. Therefore, it is not anticipated that use of hazardous materials during construction would result in a reasonably foreseeable upset or accident condition that would cause significant hazard to the public or environment.

Soil and groundwater can become contaminated through a variety of sources, including accidental spills, disposal on the ground surface, leaks in sewers and UST systems, and other releases. Any site-specific project within the UAGP boundary must comply with federal, state, regional, and local laws that regulate the generation, transportation, storage, and disposal of hazardous materials. Site-specific analyses would be conducted as required by UAGP policies, and any requisite remediation or clean-up activities would be required.

Reasonably foreseeable spills under operational conditions would be handled according to the specifications of the City's and County's Hazardous Waste Management Plan. This plan governs the preparation and implementation of the County's Area Plan for emergency response to chemical spills in the community. There would be limited potential for a reasonably foreseeable upset or accident under construction and operation due to the quantity and type of hazardous materials used; therefore, it is not anticipated that a significant hazard to the public or the environment would occur.

Future development, infrastructure, and other projects allowed under the UAGP may involve the transportation, use, and/or disposal of hazardous materials. Hazardous materials are typically used in industrial, and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, associated with previous activities on a site. This is considered a potentially significant impact.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the Cal OSHA and the DTSC consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police and Fire) would respond. All future projects allowed under the UAGP would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

UAGP policies and existing State and local regulatory programs are in place to reduce these potential hazards. Implementation of the UAGP policies and actions listed below, as well as Federal and State regulations, would ensure that potential impacts associated with the routine use, transport, storage,

or disposal or accidental release of hazardous materials would be reduced to ***less than significant*** level.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, but would concentrate more people in the planning area. The density change may cause a slight increase in the use of household hazardous materials in the planning area, but residential uses are not generators or transporters of other hazardous materials. The density changes would not have any direct physical changes related to the transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Projects will be required to comply with all federal, state, and local laws and regulations related to the transport and use of hazardous materials. Compliance with these would ensure that impacts are ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

Hazardous materials are regulated and controlled through federal, state, and local laws and regulation. The County and City have adopted specific policies and regulations regarding hazardous materials, including HM-1 through HM-8. In addition, the City has adopted ordinances that regulate hazardous materials. These federal, state, and local laws and regulations are designed to ensure the safe handling of hazardous materials through the routine transport, use, or disposal of such materials.

Impact 3.8-2: The Project would not 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)

Implementation of the UAGP would result in additional urban development and the intensification of land uses that could emit hazardous emissions or result in the handling of hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. The UAGP does not explicitly incorporate policies to limit the use of hazardous materials near school sites, or to limit the development of proposed schools near existing contamination.

The Land Use Element provides a proposed land use pattern, but does not propose actual development projects, businesses, or school facilities. As such, it is not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste in proximity to a school site. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste would be business industrial park, business park, commercial, industrial, and agricultural industrial uses. Each of these uses may use a variety of hazardous materials commonly found in urban areas including: paints, cleaners, and

cleaning solvents. If handled appropriately, these materials do not pose a significant risk, even when located within a ¼ of a school.

The UAGP is not designed to directly lead to the establishment of new businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste and the UAGP does not approve any specific development project. However, given the unknown nature of future business establishments within the commercial and industrial use areas, the potential for hazardous materials is present. All hazardous materials would be required to be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans.

As part of the development review process, the City's General Plan includes policies and requirements that are designed to reduce the risks surrounding hazardous materials. Specifically, City policies (UAGP Policy VI.M.1 through UAGP Policy VI.M.6, above) require compliance with applicable federal and state requirements, specific transportation routes, certain procedures to address spills/contamination and investigations to reveal any existing/prior soil contamination. The City routinely consults with the affected school district prior to discretionary approval of new businesses and industry that use hazardous materials near existing school sites as part of the project review process. Additionally, school siting regulations implemented by the Department of Education prohibit locating proposed schools near existing contamination. Compliance with all existing regulations as well as UAGP policies and actions related to land use compatibility and hazardous materials would ensure that the impact is ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, but would concentrate more people in the planning area. The density change may cause a slight increase in the use of household hazardous materials in the planning area, but residential uses are not generators or transporters of other hazardous materials. The density changes would not have any direct physical changes related to the hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Projects will be required to comply with all federal, state, and local laws and regulations related to the transport and use of hazardous materials. Compliance with these would ensure that impacts are ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

Hazardous materials are regulated and controlled through federal, state, and local laws and regulation. The County and City have adopted specific policies and regulations regarding hazardous materials, including HM-1 through HM-8. In addition, the City has adopted ordinances that regulate hazardous materials. These federal, state, and local laws and regulations are designed to ensure the safe handling of hazardous materials through the routine transport, use, or disposal of such materials.

Impact 3.8-3: General Plan implementation would not have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Less than Significant)

The list of hazardous materials sites and LUSTs provided earlier in this section is regulated by federal and state agencies and is under remediation efforts. New development on any of these sites is restricted, until such time that remediation is completed and a new use is approved by the regulatory agency. The UAGP does not propose anything that would conflict with the cleanup/remediation efforts on these sites, and the UAGP is supportive of the regulatory authority of the federal and state agencies for oversite of the cleanup activities. Compliance with federal and state regulations would ensure that potential impacts associated with the hazardous conditions on sites listed pursuant to Government Code Section 65962.5 would be ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, but would concentrate more people in the planning area. The density change may cause a slight increase in the use of household hazardous materials in the planning area, but residential uses are not generators or transporters of other hazardous materials. The density changes would not have any direct physical changes related to the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Compliance with these would ensure that impacts are ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

Hazardous materials are regulated and controlled through federal, state, and local laws and regulations. The County and City have adopted specific policies and regulations regarding hazardous materials, including HM-1 through HM-8. In addition, the City has adopted ordinances that regulate hazardous materials. These federal, state, and local laws and regulations are designed to ensure the safe handling of hazardous materials through the routine transport, use, or disposal of such materials.

Impact 3.8-4: Potential to be located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area (Less than Significant)

UAGP has the Modesto City–County Airport within the Baseline Development Area. New development in the vicinity of the airport presents safety hazards to people on the ground and in the plane during take-offs and/or landings. To reduce this impact, Stanislaus County adopted an updated ALUCP in 2016, specifying height and various other land use restrictions to prevent creation of physical, visual, or electronic hazards to flight within the airspace required for operation of aircraft to and from the airports. The Modesto City-County airport is included in the 2016 ALUCP. All new development must be consistent with the ALUCP, which will ensure that all impacts would be ***less than significant***. There are no private airstrips within the project boundary. No such impacts would occur.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. There are a few parcels located to the west of the Modesto City-County Airport that would be allowed to be constructed at a higher density than under the existing condition. This density change, however, would be required to be consistent with the ALUCP and is not anticipated to cause any increased safety risks. The density changes would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP does not include policies related to airports. The Stanislaus County Airport Land Use Commission maintains the ALUCP which is designed to avoid, minimize, and mitigate impacts.

Impact 3.8-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

Stanislaus County's disaster preparedness, mitigation, response, and recovery programs is administered by the Office of Emergency Services (OES). The OES develops and maintains the Stanislaus County Emergency Operations Plan and it coordinates training, planning, and exercises for first responders throughout the County.

Stanislaus County has adopted the 2010 Multi-Jurisdictional Hazard Mitigation Plan, which is a countywide plan that identifies risks posed by disasters, and ways to minimize damage from those disasters. The plan is a comprehensive resource document that serves many purposes, including: enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination. This Plan includes a risk

assessment, vulnerability analysis, and mitigation plan / strategy for earthquake, landslide, dam failure, flood, and wildfire hazards.

The UAGP would result in new development, new road and infrastructure improvements. New development and infrastructure projects are not anticipated to remove or impede any established evacuation routes within the City or region. Furthermore, the UAGP does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans. Therefore, implementation of the UAGP would have a ***less than significant*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. In effect, the density change would not cause any direct impairment or interference with an adopted emergency response plan or emergency evacuation plan, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP does not include policies related to emergency evaluation. The Stanislaus County Office of Emergency Services, and the implementation of the County's Multi-Jurisdictional Hazard Mitigation Plan is designed to avoid, minimize, and mitigate impacts.

Impact 3.8-6: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires (Less than Significant)

Wildfires present a hazard to development and land uses located in the foothill and forested areas of a city. The city of Modesto does not contain foothills or forested areas, other then riparian forests along the major river corridors. The severity of wildfire problems depends on a combination of vegetation, climate, slope, and people. Fire threat determinations is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. Fire-susceptible areas within Stanislaus County are in the extreme eastern and western portions, far removed from UAGP planning area. There would be no wildfire impacts associated with the UAGP.

The UAGP includes policies and actions that address adequate water supply and water flow availability, ensuring adequate emergency access, adequate fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. All future projects allowed under the UAGP would be required to comply with the provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development is considered by the City, each project would be evaluated for potential impacts

associated with wildland fire hazards. The UAGP planning area is considered low to moderate risk of wildland fires. Implementation of the UAGP would have a ***less than significant*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. In effect, the density change would not cause any direct change to the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP does not include policies related to wildlife fire. The Modesto Fire Code includes a variety of regulations related to fires. These regulations are designed to ensure safety for people and structures in the event of a fire.

This page intentionally left blank.

This section provides a background discussion of the regional hydrology, flooding, water quality, water purveyors, and water sources in Modesto. This section is organized with an existing setting, regulatory setting, and impact analysis.

One comment was received during the Notice of Preparation comment period regarding this environmental topic from the Central Valley Regional Water Quality Control Board, on October 28, 2024.

KEY TERMS

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is naturally replenished through precipitation but is naturally lost through evaporation and seepage into soil.

3.9.1 ENVIRONMENTAL SETTING

CLIMATE

Summers in the Planning Area are hot, arid, and clear, ranging from an average high in June of above 87°F to an average low of approximately 64°F. Winters are generally short, cold, and wet with an average high of 62°F and a low of 40°F. The average annual precipitation is approximately 298 millimeters as the yearly climate is most often dry.

WATERSHEDS

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1: STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

WATERSHED LEVEL	*APPROXIMATE SQUARE MILES (ACRES)*	*DESCRIPTION*
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALWATER, CALIFORNIA INTERAGENCY WATERSHED MAPPING COMMITTEE, 2008.

The City of Modesto is in an area where four watersheds converge: the Lower Stanislaus River Watershed, the Dry Creek Watershed, the Peaslee Creek-Tuolumne River Watershed, and the Salado Creek-San Joaquin River Watershed, as seen in Figure 3.9-1.

REGIONAL HYDROLOGY

The City of Modesto is located at the confluence of the Tuolumne River and Dry Creek, and south of the Stanislaus River. The Tuolumne River drains an 1,800-square-mile watershed, and Dry Creek drains an area of about 190 square miles. Dry Creek flows east to west and then north to south to drain into the Tuolumne River. The Stanislaus River forms the northern boundary of Stanislaus County and the City's UAGP planning area, about 7 miles north of this confluence, and drains an area of about 1,075 square miles at its intersection with SR 99. The Tuolumne and Stanislaus rivers are tributaries to the San Joaquin River, which flows into the Sacramento-San Joaquin River Delta. The topography of the Modesto area is generally flat, with gently sloping lands from east to west toward the San Joaquin River, approximately 10 miles west of the city limits. The elevation in the downtown Modesto area is approximately 100 feet above sea level. Annual precipitation is approximately 12 inches per year and occurs mainly from October through May. The city obtains a portion of its drinking water supplies from the Modesto Reservoir via the Modesto Regional Water Treatment Plant (MRWTP), which is owned and operated by the Modesto Irrigation District (MID), and groundwater aquifers that underlie the region.

STREAMS AND WATERCOURSES

The flow of the Tuolumne River is regulated by reservoirs and power plants upstream of Modesto, including Hetch-Hetchy Reservoir, which is operated by the San Francisco Public Utilities Commission. Other reservoirs and dams upstream of the City on the Tuolumne River include Don Pedro Reservoir, Modesto Reservoir, Turlock Lake, and La Grange Dam. Don Pedro Reservoir, with a capacity of 2,030,000 acre-feet (af), provides flood control for the Modesto area and is jointly operated by MID and the Turlock Irrigation District (TID). The reservoir's flows are controlled by a

dam and powerhouse. Modesto Reservoir (29,000 af) and Turlock Lake (49,000 af) receive and store Tuolumne River water via canals. MID and TID own and operate major surface irrigation water canals in the region with hundreds of miles of laterals that provide water service to large agricultural service areas. La Grange Dam, located downstream of the Don Pedro Reservoir, is primarily used to divert Tuolumne River water into MID and TID canal systems and is not intended as a water storage reservoir.

The Stanislaus River's flows are regulated by the New Melones Reservoir, which is part of the U.S. Bureau of Reclamation's (USBR's) Central Valley Project and provides hydropower electricity. The New Melones Reservoir has a pool capacity of approximately 2.42 million acre-feet.

FLOODING AND DRAINAGE

Floodplain Mapping

FEMA FLOOD ZONES

The Federal Emergency Management Agency (FEMA) mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-2.

The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area. The only portions of the City that are within either 100- or 500-year floodplains are areas that are adjacent canals, waterways, and major drainage systems. The primary flood hazard is Dry Creek, which runs along Scenic Drive, W Hatch Road and passes Interstate 99 perpendicularly east to west.

SB 5 FLOOD ZONES

Both State policy and recently enacted State legislation (Senate Bill [SB] 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. SB 5 requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection to approve development. The 200-year floodplain for the Planning Area runs primarily along the same area as the 100-year flood plain, following existing canals, waterways, and drainage systems, as seen in Figure 3.9-2.

Flooding

The Tuolumne and Stanislaus Rivers have extensively mapped, designated 100-year and 500-year floodplains. Due to the level topography of the region, the floodplain generally occupies a confined area that follows the river channel, ranging from several hundred yards to 1.5 miles wide. There are no federal flood control facilities in the Modesto urban area.

The Tuolumne River experienced severe flooding during the storms of January 1997 and established a new record height at 71.2 feet from data extending back to 1897 (U.S. Army Corps of Engineers, 1999). Although inflows to Don Pedro Reservoir were record-setting, the peak flow on January 4, 1997, of 55,800 cubic feet per second (cfs) in downtown Modesto, was slightly lower than the peak flow of 57,000 cfs recorded in 1950 prior to the new Don Pedro dam being constructed. Floodplain and habitat on a 5-mile reach of the Tuolumne River below Don Pedro Reservoir was severely damaged during the January 1997 flooding. Levees were breached, and surrounding land and gravel operations were engulfed by what has become a new channel for the Tuolumne River.

Extensive flooding also occurred in urban areas of Modesto adjacent to the main river channel. The objective flow downstream from Don Pedro Reservoir is 9,000 cfs. This provides protection from a flood that would be projected to occur only once every 55 years. The January 1997 flood on the Tuolumne River was considered a 100-year flood (U.S. Army Corps of Engineers 1999). Dry Creek flows contributed to the flood of January 1997 on the Tuolumne in the Modesto urban area because there are no upstream reservoirs to help regulate flow in the channel.

Although inflows to New Melones Reservoir (2,400,000 af) during the January 1997 storms were at record levels, the downstream areas along the Stanislaus River did not experience as severe flooding problems as the Tuolumne system because there was available storage capacity to control the peak outflows from the dam. Since New Melones Reservoir was completed in 1978, the peak recorded flow has been 7,820 cfs, occurring on June 3, 1975. An estimated $78,000,000 worth of damage to private and public property occurred in Stanislaus County during the January 1997 flood.

Federal Emergency Management Agency (FEMA) maps the designated floodplains along major streams and rivers and administers the National Flood Insurance Program for those communities that have enacted local ordinances restricting development within the 100-year floodplain. U.S. Department of Housing and Urban Development requires determinations for funding requests to ascertain whether projects involve property acquisition, management, construction, or improvement within FEMA-designated 100-year floodplains. Executive Order 11988 requires projects with federal funding or involvement to evaluate alternatives to floodplain encroachment and avoid adverse impacts to floodplain functions. FEMA issues FIRMs that designate areas within the 100-year flood plain. The City's planning area is located within multiple FIRM maps that were generally last revised on September 26, 2008 (Federal Emergency Management Agency, 2016).

The State Board of Reclamation (Reclamation) is a responsible agency in local flood control management of Stanislaus County rivers. The Tuolumne River, Stanislaus River, and Dry Creek are Designated Floodways subject to regulation by Reclamation (the Designated Floodway includes the area within FEMA's 100-year floodplain, which is larger than the federally designated floodway). It regulates development that will affect flood control levees under its jurisdiction through an encroachment permit program for federal flood-control project levees and State Designated Floodways.

Dam Inundation

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by nine dams: Cherry Valley Dam, Don Pedro Dam, Lake Eleanor Dam, Modesto Res Dam, New Exchequer Dam (Lake McClure), O'Shaughnessy Dam, Relief/Tulloch Dam, Turlock Dam, and Vermilion Valley Dam. The dam inundation area for each dam is shown in Figure 3.9-3.

These dams do not have a history of failure; however, they are identified as having the potential to inundate habitable portions of the Planning Area in the unlikely event of dam failure. The dam owners/operators, Oakdale and South San Joaquin Irrigation Districts, the Bureau of Reclamation, and the State of California, are responsible for the management, monitoring, and improvements to these dams to reduce the risk of dam failure and inundation.

Despite the number of dams near Stanislaus County, the risk of dam failure inundating portions of the County is considered low, and the degree and nature of risk for each dam is unknown. Dam failure can occur under three general conditions: because of an earthquake, an isolated incident due to structural instability, or because of intense rain more than design capacity.

Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. This plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

STORMWATER QUALITY

Surface water quality is affected by point source and non-point source pollutants. Point source pollutants are those emitted at a specific point, such as a pipe, while non-point source pollutants are typically generated by surface runoff from diffuse sources, such as streets, paved areas, and landscaped areas. Point source pollutants are controlled with pollutant discharge regulations or waste discharge requirements (WDRs). Non-point source pollutants are more difficult to monitor and control, although they are important contributors to surface water quality in urban areas.

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, and the amount and frequency of rainfall and irrigation practices. Runoff in developed areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the "first flush."

Storm Water Drainage

The Tuolumne River and Dry Creek receive a large fraction of stormwater runoff from the Modesto urban area. Storm water is also drained to MID canals located north of the Tuolumne River. Stormwater drainage south of the Tuolumne River is discharged to outfalls along the Tuolumne

River; Turlock Irrigation District (TID) facilities located in the Ceres area are not currently used for storm drainage. The MID and TID facilities generally convey drainage west to downstream locations along the Tuolumne River and the San Joaquin River.

There is a finite existing capacity for MID canals to convey storm drainage because the canal systems were designed primarily to convey irrigation water. Consequently, canal capacities for flow conveyance are larger near the eastern edge of the county, where the irrigation water originates and is reduced near the western edge where the terminal agricultural water users are located. Therefore, the suitability of the canal systems for stormwater conveyance contrasts with the needs of urban area stormwater systems that generate more flow in the downstream direction as more and more stormwater discharges are contributed to the channels.

During the winter rainfall season, capacity in some parts of the MID canal system can be limited for acceptance of storm drainage. The City generally regulates its discharges to the MID facilities by controlling the pumping systems at detention/retention-pond discharge locations. The City of Modesto controls the amount of urban storm drainage entering the channels by operating pump stations that discharge flow from the surrounding landscape into the channels. MID staff will request curtailment of pumping by the City before the canals reach their capacity. MID now requires high water level monitoring and shut off sensors to be installed in City storm water discharge pump stations that discharge to MID canals to help avoid exceeding the capacity of canals.

The City maintains a Storm Drainage Master Plan, to describe the schematic layout of future storm drainage systems in all the Planned Urbanizing Area. MID and TID both require that the City and any other parties who wish to use their facilities for disposal of excess storm drainage to enter into drainage agreements for the use of their canal facilities. The drainage agreements serve to account for the projected drainage contributions and ensure that the design and installation of the facilities needed are coordinated among the parties responsible.

Storm water drainage systems are designed primarily to convey runoff that occurs during storm events. Impervious surfaces collect and concentrate stormwater discharges to various drainage systems. To a lesser extent, the drainage systems also help to dispose of excess water generated from urban uses such as street sweeping, residential watering, and other activities that generate runoff during drier months of the year. Proper control of stormwater runoff is important to reduce adverse effects from increased flooding, erosion, and transport of pollutants. The City is currently requiring developers to implement the concepts of Low Impact Development (LID) for all new development and redevelopment projects, as established in the City's Guidance Manual for New Development Stormwater Quality Control Measures (adopted 2011, revised February 2015). LID uses a variety of mechanisms to retain as much stormwater runoff on each individual site as possible. Runoff is infiltrated using swales, vegetation, pervious pavement, French drains, rockwells, and other methods.

The City's storm drainage system includes approximately 77 miles of storm drain lines and 25 storm pump stations. Stormwater discharges from the City drain to 24 drainage basins and

approximately 12 major outfalls (greater than 24 inches in diameter) to receiving waters (Tuolumne River or Dry Creek), Modesto Irrigation District (MID) laterals/drains, or rockwells. According to the City's Storm Drainage Master Plan (2008), surface water discharges generally occur in the older parts of Modesto or those areas immediately adjacent to the Tuolumne River, Dry Creek, or irrigation canals. Approximately 40 percent of stormwater gets discharged to detention/retention basins, 20 percent of stormwater gets directed to receiving waters, 10 percent is directed to MID laterals/drains, and 30 percent goes to rockwells.

Rockwells are designed to collect surface stormwater runoff and allow it to infiltrate to the groundwater. Rockwells are rock-lined holes that are typically 6 feet in diameter and up to 50 feet deep. There are approximately 10,500 rockwells in Modesto. The rockwells are generally unable to accommodate the amount of drainage generated in the existing developed areas. In addition, the cost of maintenance for rockwells is high and the U.S. Environmental Protection Agency (EPA) regulations for rockwells are becoming more stringent. Consequently, the City is generally requiring gravity stormwater systems to be installed in the existing urban areas. The City of Modesto's Guidance Manual for Development Stormwater Quality Control Measures includes guidance for how development projects can implement infiltration wells for the purpose of stormwater runoff treatment and retention. These areas must be served by positive gravity stormwater drainage systems.

Many of the City's storm drainage pipelines are interconnected with sanitary sewer lines. After storm events, these cross-connections typically increase substantially with peak flows. As part of the City's Wastewater Master Plan, the City plans to decrease these peak flows in the sanitary sewer system by disconnecting up to 60 of these interconnections. Some improvements may include installing new storm drainage pipes, detention basins, and various underground storage and percolation methods.

The City monitoring and reporting program for the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems (MS4) permit is issued pursuant to Water Code Section 13267. To comply with the City's MS4 permit (NPDES No. CAS083526, Order No. R5-2015-0025) and monitoring and reporting program, the City is responsible for assessing the point-source runoff from Modesto. The City's drainage facilities are unique since only one-third of the City drains into surface water while the remaining drainages goes to rock wells. The MS4 permit and monitoring and reporting program apply to both water quality and drainage for the City. As part of the Monitoring Program, the City is required to collect water quality data from representative outfalls and estimates of annual pollutant loads of cumulative discharges to waters of the U.S. from identified municipal outfalls. Besides including a comprehensive assessment of water quality data, the Comprehensive Monitoring Report also identifies Best Management Practices (BMPs) contained in the drainage facilities that help reduce pollutant loading.

The City has been required to do a Peak Discharge Impact Study (PDIS) by the MS4 Permit. The purpose of the PDIS is to determine the extent of erosion of the natural streams from the City stormwater runoff. The City has developed a work plan to conduct a PDIS to determine the extent of erosion of natural stream channels and banks caused by urban runoff on both the Dry Creek and

Tuolumne Rivers. In previous studies, the City has determined erosion was minimal based on aerial photos of Dry Creek. This work plan also evaluates peak flow control and determines numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urban runoff (City of Modesto, 2016).

Plans and specifications for new stormwater facilities within Modesto are reviewed and approved by the City's Community and Economic Development Department. Development of storm drainage facilities are required to be installed in compliance with BMPs outlined in the City's Comprehensive Stormwater Management Program (CSMP), Guidance Manual for New Development Stormwater Quality Control Measures (City of Modesto 2011, revised February 2015) and as outlined in the City's Design Standards for Dual Use Flood Control/Recreation Facilities, adopted December 12, 2000.

303(d) Impaired Water Bodies

Water quality in the City is governed by the CVRWQCB, which sets water quality standards in their Water Quality Control Plan for the respective basins (Basin Plans). The Basin Plans identify beneficial uses for surface water and groundwater and establish water quality objectives to attain those beneficial uses.

Section 303(d) of the federal CWA requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). TMDL is a tool that establishes allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within Stanislaus County which are considered Section 303(d) impaired waterbodies.

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or septic tank failures,

contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual level. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to NPDES permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

Table 3.9-2 below summarizes 303(d) impaired water bodies in the vicinity of the Planning Area.

TABLE 3.9-2: PLANNING AREA VICINITY IMPAIRED WATER BODIES

POLLUTANT	*FINAL LISTING DECISION*	*EXPECTED TMDL COMPLETION DATE*	*EXPECTED TMDL ATTAINMENT DATE*	*POTENTIAL SOURCE*
Del Puerto Creek (Stanislaus County)				
Metals/Metalloids				
Boron	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Chromium	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Specific Conductivity	List on 303(d) list (TMDL required)	2033	n/a	Unknown
Delta Waterways (Southern Portion)				
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Other Cause				
Invasive Species	List on 303(d) list (TMDL required)	2019	n/a	Unknown
Total Toxics				
Toxicity	List on 303(d) list (TMDL required)	2019	n/a	Unknown
Dry Creek (Tributary to Tuolumne River)				
Pesticides				

Bifenthrin	List on 303(d) list (being addressed by action other than TMDL)	n/a	2030	Unknown
Cyfluthrin	List on 303(d) list (being addressed by action other than TMDL)	n/a	2030	Unknown
Cyhalothrin, Lambda	List on 303(d) list (being addressed by action other than TMDL)	n/a	2030	Unknown
Pyrethroids	List on 303(d) list (being addressed by action other than TMDL)	n/a	2030	Unknown
Duck Creek (San Joaquin County)				
Metals/Metalloids				
Lead	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Mercury	List on 303(d) list (TMDL required)	2019	n/a	Unknown
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Total Toxics				
Toxicity	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Grasslands (Marshes)				
Metals/Metalloids				
Selenium	List on 303(d) list (being addressed by USEPA approved TMDL)	n/a	n/a	Unknown
Grayson Drain (At Outfall)				
Pathogens				
Indicator Bacteria	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Harding Drain				
Toxic Organics				
alpha.-BHC (Benzenehexachloride or alpha-HCH)	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Pesticides				
DDE (Dichlorodiphenyldichloroethylene)	*List on 303(d) list (TMDL required)*	2021	n/a	Unknown
Hexachlorobenzene/ HCB	List on 303(d) list (TMDL required)	2022	n/a	Unknown
Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	List on 303(d) list (TMDL required)	2023	n/a	Unknown
Hospital Creek (San Joaquin and Stanislaus Counties)				
Metals/Metalloids				
Boron	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Lead	List on 303(d) list (TMDL required)	2036	n/a	Unknown
Nickel	List on 303(d) list (TMDL required)	2037	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Salinity	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Other Cause				
pH	List on 303(d) list (TMDL required)	2033	n/a	Unknown
Pesticides				
Chlorpyrifos	List on 303(d) list (being addressed by action other than TMDL)	n/a	2026	Agriculture
Diuron	List on 303(d) list (being addressed by action other than TMDL)	n/a	2020	Agriculture
Methyl Parathion	List on 303(d) list (being addressed by action other than TMDL)	n/a	2018	Agriculture
Ingram Creek (From Confluence with Hospital Creek to Hwy 33 Crossing)				
Metals/Metalloids				
Boron	List on 303(d) list (TMDL required)	2033	n/a	Unknown
Pesticides				

Bifenthrin	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Cyfluthrin	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Cyhalothrin, Lambda	List on 303(d) list (TMDL required)	2035	n/a	Unknown
DDE (Dichlorodiphenyldichloroethylene)	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Diazinon	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Dimethoate	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Esfenvalerate/Fenvalerate	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Imidacloprid	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Linuron	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Metolachlor	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Dieldrin	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Pathogens				
Indicator Bacteria	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Salinity	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Total Toxics				
Toxicity	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Langworth Pipeline (Stanislaus County)				
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Levee Drain (Stanislaus County)				
Nutrients				
Nitrate/Nitrite (Nitrite + Nitrate as N)	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Specific Conductivity	List on 303(d) list (TMDL required)	2033	n/a	Unknown
Total Dissolved Solids	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Little Johns Creek				
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Lone Tree Creek				
Nutrients				
Ammonia	List on 303(d) list (TMDL required)	2020	n/a	Unknown
BOD, Biochemical oxygen demand	List on 303(d) list (TMDL required)	2020	n/a	Unknown
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Other Cause				
Benthic Community Effects	List on 303(d) list (TMDL required)	2034	n/a	Unknown
Merced River (Lower McSwain Reservoir to San Joaquin River)				
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Newman Wasteway				
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Salinity	List on 303(d) list (TMDL required)	2021	n/a	Unknown
Orestimba Creek (Above Kilburn Road)				
Metals/Metalloids				
Selenium	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Pesticides				

Bifenthrin	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Cyhalothrin, Lambda	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Diazinon	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Dimethoate	List on 303(d) list (being addressed by action other than TMDL)	n/a	n/a	Unknown
Esfenvalerate/Fenvalerate	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Linuron	List on 303(d) list (TMDL required)	2036	n/a	Unknown
Pyrethroids	List on 303(d) list (TMDL required)	2037	n/a	Unknown
Orestimba Creek (Below Kilburn Road)				
Metals/Metalloids				
Chromium	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Nickel	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Pesticides				
Bifenthrin	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Cyhalothrin, Lambda	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Dimethoate	List on 303(d) list (being addressed by action other than TMDL)	n/a	n/a	Unknown
Esfenvalerate/Fenvalerate	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Imidacloprid	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Linuron	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Pyrethroids	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Ramona Lake				
Metals/Metalloids				
Boron	List on 303(d) list (TMDL required)	2033	n/a	Unknown
Pesticides				
Linuron	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Linuron	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Rock Creek (Stanislaus County)				
Nutrients				
Oxygen, Dissolved	List on 303(d) list (TMDL required)	2035	n/a	Unknown
Pathogens				
Indicator Bacteria	List on 303(d) list (TMDL required)	2035	n/a	Unknown
San Joaquin River (Mendota Pool to Bear Creek)				
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown
Other causes				
pH	List on 303(d) list (TMDL required)	2035	n/a	Unknown
San Joaquin River (Mud Slough to Merced River)				
Metals/Metalloids				
Mercury	List on 303(d) list (TMDL required)	2012	n/a	Unknown
Pesticides				
Chlorpyrifos	List on 303(d) list (TMDL required)	2027	n/a	Unknown
DDT (Dichlorodiphenyltrichloroethane)	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Diazinon	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown
Pathogens				
Indicator Bacteria	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Electrical Conductivity	List on 303(d) list (TMDL required)	2027	n/a	Unknown

Other Cause				
Temperature, Water	List on 303(d) list (TMDL required)	2034	n/a	Unknown
San Joaquin River (Merced River to Tuolumne River)				
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Electrical Conductivity	List on 303(d) list (TMDL required)	2027	n/a	Unknown
San Joaquin River (Tuolumne River to Stanislaus River)				
Metals/Metalloids				
Mercury	List on 303(d) list (TMDL required)	2012	n/a	Unknown
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown
Salinity/Total Dissolved Solids/Chloride/Sulfates				
Electrical Conductivity	List on 303(d) list (TMDL required)	2027	n/a	Unknown
Stanislaus River, Lower				
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown
Tuolumne River, Lower (Don Pedro Reservoir to San Joaquin River)				
Pesticides				
Group A Pesticides	List on 303(d) list (TMDL required)	2011	n/a	Unknown

SOURCE: STATE WATER RESOURCES CONTROL BOARD, FINAL 2020/2022 CALIFORNIA INTEGRATED REPORT (CLEAN WATER ACT SECTION 303(D) LIST / 305(B) REPORT)

GROUNDWATER

The City's planning area lies at the northern end of the San Joaquin Valley Groundwater Basin and overlies two designated groundwater subbasins that are delineated by geographic and hydrologic features. The Turlock groundwater subbasin encompasses the area south of the Tuolumne River to the Merced River and from the San Joaquin River to the base of the Sierra Foothills. The Modesto groundwater subbasin extends north from the Tuolumne River to the Stanislaus River and east from the San Joaquin River to the base of the Sierra foothills. The Delta-Mendota subbasin underlies the outlying area of Grayson. The groundwater basins are recharged from streamflow infiltration, deep percolation of irrigation water, and rain. Large areas of the county are considered principal groundwater recharge areas, as well.

Both groundwater subbasins underlying the City's contiguous service area consist of similar hydrogeologic properties. The groundwater subbasins are composed of three units: (1) a lower aquifer unit (Unit 1) that is confined in the west (beneath Unit 2) and unconfined in the east; (2) a shallow, unconfined aquifer (Unit 2); and, (3) an aquitard, known as the Corcoran Clay, an impervious barrier separating the two aquifers. The Corcoran Clay, which underlies the entire San Joaquin Valley, is generally thickest near the center of the valley and progressively thinner near the edges, with the eastern edge located about three miles east of Modesto. Within the areas where the Corcoran Clay layer is present, most wells are completed in the upper Unit 2 aquifer because water quality is generally better than in Unit 1.

Groundwater Levels

Prior to the original MRWTP becoming operational, extensive pumping of groundwater in and near the study area had resulted in the beginning of a localized overdraft condition (defined as the extraction of groundwater more than its long-term average rate of natural recharge). Groundwater levels in the Modesto subbasin declined on average nearly 15 feet from 1970 through 2000 (Department of Water Resources (DWR) 2004), while average groundwater levels in the Turlock Subbasin declined nearly 7 feet from 1970 through 2000 (DWR 2006b). Groundwater levels in the Delta-Mendota Subbasin declined an average of 2.2 feet from 1970 through 2000 (DWR 2006a). Groundwater levels were locally depressed beneath and around the Modesto urban area, but completion of the Modesto Regional Water Treatment Plant in 1994 and subsequent importation of surface water supplies from the Modesto Irrigation District caused groundwater levels to rebound to some degree (STRGBA 2005). More recent data indicates that from 2007 to 2017 groundwater levels in the Modesto area decreased from 0 to 20 feet, with isolated areas of greater reductions (DWR 2017). Some of this decrease may be attributable to the drought in California in the mid-2010s, which lasted in its most severe form from roughly 2013-2014, though moderate drought conditions continued for years afterwards in some areas of the state, including in the Modesto area through February 2017. In 2014 in the Central Valley, total groundwater pumping was increased by 5 million acre-feet to partially compensate for a reduction in surface water deliveries to farmers of 6.5 million acre-feet in that year (Stanislaus County 2014). An evaluation conducted by the City in 2007 determined that if the total, long-term average groundwater pumpage quantity is held at or below 53,500 af/yr (the preliminary operational yield), then stable groundwater levels would result at approximately 40 feet msl within and near the City's contiguous service area (West Yost Associates, 2016). The City of Modesto and several other local, regional, and state agencies are involved in monitoring the groundwater levels in the region.

Groundwater Management Regulations

STANISLAUS AND TUOLUMNE RIVERS GROUNDWATER BASIN ASSOCIATION

In the mid-1990s, in order to provide a forum for coordinating the planning and management activities within their respective subbasins, agencies in the Modesto groundwater subbasin formed the Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA. The STRGBA, an association of six agencies (City of Modesto, Modesto Irrigation District, City of Oakdale, Oakdale Irrigation District, City of Riverbank, and Stanislaus County) developed the *Integrated Regional Groundwater Management Plan for the Modesto Subbasin* (IRGMP) (STRGBA 2005). The IRGMP was developed in compliance with the Groundwater Management Planning Act of 2002 (SB 1938) and the Integrated Regional Water Management Planning Act (SB 1672). The overarching goal of the IRGMP is "to provide for the integrated use of groundwater and surface water within the basin to ensure the reliability of a long-term water supply to meet current and future beneficial uses including agricultural, industrial, and municipal water requirements while protecting the environment" (STRGBA 2005). Consistent with SB 1938, the IRGMP contains basin management objectives (BMOs) to meet the purpose and goals of the groundwater management plan.

Since development of the IRGMP, the STRGBA has formed a groundwater sustainability agency (GSA) in compliance with the state's Sustainable Groundwater Management Act (SGMA), which is described below, expanded its STRGBA membership to include the City of Waterford, and become designated as the exclusive GSA for the Modesto Subbasin (STRGBA GSA 2018). In addition, since 2005, the STRGBA has conducted and/or coordinated groundwater basin management and analysis efforts such as a surface recharge characterization study, USGS Hydrologic Characterization Study, USGS Susceptibility Contamination Study, USGS MERSTAN Groundwater Model development, and two of three planned efforts on Well Field Optimization. The STRGBA is in the process of complying with the SGMA timelines for approval of a groundwater sustainability plan (GSP) by DWR.

TURLOCK GROUNDWATER BASIN ASSOCIATION

Similar to the STRGBA's formation, in 1995, agencies in the Turlock subbasin formed the Turlock Groundwater Basin Association (TGBA), which is a formal group for coordinating groundwater management activities within the Turlock Subbasin. The TGBA is coordinating with two GSAs, which were formed by joint power authorities, to manage the preparation of a single GSP that will manage groundwater quantity and quality for the entire Turlock Subbasin. The two GSAs in the Turlock Subbasin include the West Turlock Subbasin GSA and the East Turlock Subbasin GSA. Each of the two GSAs consists of multiple agricultural and municipal water agencies, and counties, and is the exclusive GSA for its service area. the West Turlock Subbasin GSA's member agencies include the cities of Turlock, Ceres, Hughson and Modesto, Stanislaus and Merced counties, Denair Community Service District, Delhi and Hilmar county water districts, and the Turlock Irrigation District. Associate members include the City of Waterford (which provides water supplies for the community of Hickman), Stevinson Water District and Keyes Community Services District. All or a portion of the member and associate member agencies' service areas are located within the Turlock Subbasin. The boundary separating the two GSAs is generally the Turlock Irrigation District's eastern irrigation service area boundary. The five members of the East Turlock Subbasin GSA include Eastside and Ballico-Cortez water districts, Merced Irrigation District; and Stanislaus and Merced counties. The existing Groundwater Management Plan (2008) for the Turlock Subbasin presents BMOs and recommended protection measures to meet the TGBA's overall goal to "ensure that groundwater remains a reliable, safe, efficient, and cost-effective water supply for the local area." As mentioned above, the two GSAs and the TGBA are in the process of developing a GSP for the entire Turlock Subbasin.

FLOODPLAIN MAPPING

FEMA Flood Zones

The Federal Emergency Management Agency (FEMA) mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part

of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-2.

Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- **Zone A:** Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- **Zone AE:** Subject to 100-year flooding with base flood elevations determined.
- **Zone AH:** Subject to 100-year flooding with flood depths between one- and three-feet being areas of ponding with base flood elevations determined.
- **500-year Flood Zone:** Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.

The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area.

SB 5 Flood Zones

Both State policy and recently enacted State legislation (Senate Bill [SB] 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. SB 5 requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The 200-year floodplain for the Planning Area is shown in Figure 3.9-2.

Dam Inundation

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by eight dams: Cherry Valley Dam, Don Pedro Dam, Lake Eleanor Dam, Modesto Res Dam, New Exchequer Dam, O'Shaugnessy Dam, Turlock Lake Dam, and Vermilion Valley Dam.

These dams do not have a history of failure; however, they are identified as having the potential to inundate habitable portions of the Planning Area in the unlikely event of dam failure. The dam owners/operators are responsible for the management, monitoring, and improvements to these dams to reduce the risk of dam failure and inundation.

Portions of the 100-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the Planning Area is not specifically defined but would generally coincide with the area delineated as the 100-year floodplain.

Despite the number of dams near Stanislaus County, the risk of dam failure inundating portions of the County is considered low, and the degree and nature of risk for each dam is unknown. Dam

failure can occur under three general conditions: as a result of an earthquake, an isolated incident due to structural instability, or because of intense rain in excess of design capacity.

Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. This plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

3.9.2 REGULATORY SETTING

There are several regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including FEMA, the US EPA, the State Water Resources Control Board (SWRCB), and the CVRWQCB. The following is an overview of the federal, state, and local regulations that are applicable to the proposed project.

FEDERAL

Clean Water Act

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The CWA establishes the basic structure for regulating the discharges of pollutants into the waters of the United States and gives the US Environmental Protection Agency (EPA) the authority to implement pollution control programs. The statute's goal is to regulate all discharges into the nation's waters and to restore, maintain, and preserve the integrity of those waters. The CWA sets water quality standards for all contaminants in surface waters and mandates permits for wastewater and stormwater discharges.

The CWA also requires states to establish site-specific water quality standards for navigable bodies of water and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The following CWA sections assist in ensuring water quality for the water of the United States:

CWA Section 208 requires the use of best management practices (BMPs) to control the discharge of pollutants in stormwater during construction CWA Section 303(d) requires the creation of a list of impaired water bodies by states, territories, and authorized tribes; evaluation of lawful activities that may impact impaired water bodies, and preparation of plans to improve the quality of these water bodies. CWA Section 303(d) also establishes TMDLs, which is the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards CWA Section

404 authorizes the US Army Corps of Engineers to require permits that will discharge dredge or fill materials into waters in the US, including wetlands.

In California, the EPA has designated the SWRCB and its nine RWQCBs with the authority to identify beneficial uses and adopt applicable water quality objectives.

The 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).

Federal Emergency Management Agency

FEMA operates the NFIP. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California Department of Water Resources to ensure the proper implementation of FEMA floodplain management regulations.

Flood Control Act

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

Flood Disaster Protection Act (FDPA)

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited Federal assistance, including acquisition, construction, and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all Federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.

- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

National Flood Insurance Program (NFIP)

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes: *Better indemnify individuals for flood losses through insurance; Reduce future flood damages through State and community floodplain management regulations; and Reduce Federal expenditures for disaster assistance and flood control.*

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

National Pollutant Discharge Elimination System

NPDES permits are required for discharges to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, oceans, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal CWA, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the EPA Regional Administrator (EPA Region 9). The terms of these NPDES permits implement pertinent provisions of the Federal CWA and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Individual projects in the City that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMP) the discharger would use to prevent and retain storm water runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Rivers and Harbors Appropriation Act of 1899

One of the country's first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

Water Pollution Control Act of 1972

The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States

STATE

California Fish and Wildlife Code

The California Department of Fish and Wildlife (CDFW) protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1600 to 1616 of the California Fish and Game Code. The California Fish and Game Code establishes that "an entity may not substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river stream, or lake" (Fish and Game Code Section 1602(a)) without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. The CDFWs jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

California Code of Regulations

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminants levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

California Government Code

Relevant sections of the California Government Code are identified below.

SECTION 65302

Revised safety elements must include maps of any 200-year flood plains and levee protection zones within the Planning Area.

SECTION 65584.04

Any land having inadequate flood protection, as determined by FEMA or DWR, must be excluded from land identified as suitable for urban development within the planning area.

SECTION 8589.4

California Government Code §8589.4, commonly referred to as the Potential Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a "100-year flood." In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund ("SRF") and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

Consumer Confidence Report Requirements

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Assembly Bill 162

Assembly Bill (AB) 162 requires a general plan's land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by FEMA or DWR. The bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

This bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.

Assembly Bill 70

AB 70 provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the State's exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped area, as defined, that is protected by a State flood control project, unless the city or county meets specified requirements.

Senate Bill 610 and Assembly Bill 901

The State Legislature passed SB 610 and AB 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

Senate Bill 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

Water Quality Control Basin Plan

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), amended by the CVRWQCB in 2018, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and SJR basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the SJR include groundwater recharge and freshwater replenishment.

State Water Resources Control Board Storm Water Strategy

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board's role in storm water resources management and evolve the Storm Water Program by a) developing guiding principles to serve as the foundation of the storm water program, b) identifying issues that support or inhibit the program from aligning with the guiding principles, and c) proposing and prioritizing projects that the Water Boards could implement to address those issues.

The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board's Storm Water Program.

LOCAL

City of Modesto Policies

CITY OF MODESTO URBAN AREA GENERAL PLAN

FWQ-3: The City of Modesto will restrict development and encroachment into the Tuolumne River and Dry Creek floodplains to ensure and maintain proper downstream conveyance of flood flows to the San Joaquin River. The Comprehensive Planning Districts established for the Tuolumne and Stanislaus Rivers and Dry Creek by the Urban Area General Plan will limit development to open-space and related uses.

FWQ-4: When development is proposed on parcels located within any "Flood Potential Study Area" shown on Figure VII-2 [of the UAGP], the following policies apply.

1. Approve new urban development only when the City determines via "findings" that its protected from "200-year" floods, and otherwise complies with the City's Floodplain Management Ordinance (Title 9, Chapter 4 of the Modesto Municipal Code). (UAGP Policy VII.L[a])

2. Undeveloped floodway areas as well as the Tuolumne River Regional Park Master Plan, the Dry Creek Master Plan, the Tuolumne River Comprehensive Planning District (CPD), and the Dry Creek CPD should be preserved for undeveloped and non-urban use, as provided in the City's Floodplain Management Ordinance. (UAGP Policy VII.L[b])

3. Appropriate emergency plans for the safe evacuation of people from areas subject to inundation from dam failure shall be reviewed and periodically updated. The City Fire Department, Police Department, and Public Works Department should continue to work with other jurisdictions to develop evacuation routes to be used in case of dam failure. Evacuation routes will serve all of the jurisdictions in the County. (UAGP Policy VII.L[c])

FWQ-5: The following policies will help to minimize the future loss of life and reduce property damage as a result of floods as well as reduce the economic impact of floods.

1. Maintain the floodplain management ordinance to ensure that flood insurance can be made available to qualified property owners through State and Federal programs. (UAGP Policy VII.L[d])

2. Support the Federal Emergency Management Agency (FEMA) Flood Insurance Program so that residents who qualify may purchase such protection. Property owners whose property is located within certain areas identified by FEMA as flood hazard areas may purchase insurance against flood damage. (UAGP Policy VII.L[e])

3. Discourage development in areas susceptible to floods, except as provided under the Flood Insurance Program and City Floodplain Management Ordinance. (UAGP Policy VII.L[f])

FWQ-6: All of the Flood Hazard Policies adopted for the Baseline Developed Area apply equally within the Planned Urbanizing Area. (UAGP Policy VII.L[g])

FWQ-7: The environmental review document for any Comprehensive Planning District located within or including any portion of a "Flood Potential Study Area" on Figure VII-2 [of the UAGP], should include a Flood Hazard Analysis developed to mitigate all of the Flood Hazard impacts identified in the Master Environmental Impact Report. (UAGP Policy VII.L[h])

FWQ-8: The results of the Flood Hazard Analysis should be incorporated into the project design of any Specific Plan. The Specific Plan shall prohibit development within the flood channel, consistent with the City's Floodplain Management Ordinance. Where possible, the Specific Plan shall minimize development within the floodplain, consistent with the City's Floodplain Management Ordinance, by such means as providing setbacks from flood zones, designating areas within the flood zones for low-intensity development only, or providing for setback levees. When levee improvements are necessary to achieve flood protection, the Specific Plan shall include adequate funding for those improvements. Funding mechanisms may include special assessments or special taxes for both capital and maintenance costs, and shall not rely solely on impact fees. The City may work with other agencies to provide these improvements. (UAGP Policy VII.L[i])

FWQ-9: Meet the requirements of acceptable urban storm runoff as established by the Central Valley Regional Water Quality Control Board Basin Plan for surface discharges and Environmental Protection Agency for underground injection. (UAGP Policy VI.G.1)

FWQ-10: Construct, operate, maintain, and replace storm water drainage facilities in a manner that will provide the best possible service to the public, as required by federal and state laws and regulations. In developing implementation plans, consideration should be given to rehabilitation of existing facilities, remediation of developed areas with inadequate

levels of drainage service, and timely system expansion for future development. (UAGP Policy VI.G.2)

FWQ-11: Construction activities shall comply with the requirements of the City's Storm Water Management Plan under its municipal NPDES stormwater permit, and the State Water Resources Control Board's General Permit for Discharges of Storm Water Associated with Construction Activity. (UAGP Policy VI.G.3)

FWQ-12: For developments within a mapped 100-year floodplain, prepare studies that demonstrate how the development will comply with both the construction and post-construction programs under the City's municipal NPDES permit. No increased erosion or releases of other contaminants that would cause violations of the City's municipal NPDES permit should occur as a result of development. (UAGP Policy VI.G.4)

FWQ-13: Ensure that new development complies with the City of Modesto's Stormwater Management Program: Guidance Manual for New Development Stormwater Quality Control Measures. (UAGP Policy VI.G.5)

FWQ-14: Require new development to implement an appropriate selection of permanent pollution control measures in accordance with the City's implementation policies for the municipal NPDES stormwater permit. (UAGP Policy VI.G.6)

FWQ-15: Design development projects to preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands and buffers. Minimize disturbance of natural water bodies or natural drainage systems that might result from development, including road construction. (UAGP Policy VI.G.7)

FWQ-16: Integrate Low Impact Development principles into proposed development projects' design. Low Impact Development is a storm water management and land development strategy that promotes conservation and use of natural on-site features combined with engineered small-scale hydrologic devices. In designing development projects, minimize the amount of impervious surface in order to maximize on-site infiltration of stormwater runoff and minimize the potential for storm water runoff from the site. (UAGP Policy VI.G.8)

Stanislaus County General Plan

CHAPTER 5. SAFETY ELEMENT

Goal One: Prevent loss of life and reduce property damage as a result of natural disasters.

Policy Two: Development should not be allowed in areas that are within the designated floodway or any areas that are known to be susceptible to being inundated by water from any source.

Goal Two: Minimize the effects of hazardous conditions that might cause loss of life and property.

Policy Nine: The County shall support the formation of improvement districts (including flood control districts) or overlay zones to mitigate safety hazards.

Policy Fifteen: The County will support the Federal Emergency Management Agency (FEMA) Flood Insurance Program so that residents who qualify may purchase such protection.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

IMPACTS AND MITIGATION

Impact 3.9-1: General Plan implementation would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan (Less than Significant)

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

As required by the CWA, each subsequent development project or improvement project will require an approved SWPPP that includes best management practices for grading and preservation of topsoil. A SWPPP is not required if the project will disturb less than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

Future development project applicants must submit the SWPPP with a Notice of Intent to the CVRWQCB to obtain a General Permit. The CVRWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The CVRWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the CWA).

The UAGP sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The CVRWQCB will require a project specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development and infrastructure improvements projects under the proposed General Plan could introduce constituents into the storm water system that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. These pollutants tend to build up during the dry months of the year. Precipitation during the early portion of the wet season (generally from

November to April) washes away most of these pollutants, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff is referred to as the "first flush" of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The majority of development allowed under the UAGP would be within areas currently developed with urban uses, and the amount and type of runoff generated by various future development and infrastructure projects would be similar to existing conditions. However, new development and infrastructure projects have the potential to result in increases in the number of impervious surfaces throughout Modesto. Future increases in impervious surfaces would result in increased urban runoff, pollutants, and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents could result in water quality impacts onsite and offsite drainage flows to area waterways. Waters that are listed under Section 303(d) of the CWA are known as "impaired." CWA Section 303(d) lists many water bodies within the County. These are listed under Table 3.9-2.

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Due to future development and infrastructure projects, the overall volume of runoff in Modesto could be increased compared to existing conditions. If the City's drainage system is not adequately designed, General Plan buildout could result in localized higher peak flow rates. Localized increases in flow would be significant if increases exceeded system capacity or contributed to bank erosion. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below, as well as the City's adopted Municipal Code requirements.

The UAGP sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future development and infrastructure project is required to prepare a detailed project specific drainage plan, Water Quality Management Plan, and a SWPPP that will control storm water runoff and erosion, both during and after construction. If the project involves discharge into surface waters the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the CVRWQCB.

As described above, under the Regulatory Setting, the City is required to implement a range of measures and procedures when reviewing new development and infrastructure projects. Compliance with existing City construction and stormwater management codes, and submittal of a site-specific drainage study and SWPPP, would reduce these potential impacts related to stormwater quality.

While the primary regulatory mechanisms for ensuring that future development and infrastructure projects do not result in adverse water quality impacts are contained in the Modesto Municipal Code, the City of Modesto has developed the General Plan to include additional goals and policies that, when implemented, will further reduce water pollution from construction, new development, and new infrastructure projects, and protect and enhance natural storm drainage and water quality features. The policies and actions include numerous requirements that would reduce the potential for General Plan implementation to result in increased water quality impacts.

For example, City policies and capital improvement projects for stormwater drainage facilities would minimize discharge of urban pollutants to natural waterways (FWQ-9, FWQ-10, FWQ-11). The City's drainage program policies require new development to prepare drainage plans and implement urban runoff control measures (FWQ-11, FWQ-12, FWQ-13); larger Specific Plan developments must have storm drainage systems designed to control pollutant runoff (FWQ 8). The City's implementation policies for the municipal NPDES stormwater permit require new development to implement an appropriate selection of permanent pollution control measures (FWQ-14). Permanent erosion control measures such as seeding and planting vegetation for new cut-and-fill slopes, directing runoff through vegetation, or otherwise reducing the offsite discharge of particulates and sediment are currently some effective methods of controlling offsite discharge of urban pollutants. Preservation of areas such as wetlands, riparian corridors, and buffers that provide water quality benefits (FWQ-15) and implementation of Low Impact Development principles (FWQ-16) would provide similar benefits.

Actions by the City during the development review process require the review of development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased beyond pre-development levels during rain and flood events. In addition, compliance with the CWA and regulations enforced by the Regional Water Quality Control Board would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

The City of Modesto provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. Existing regulatory requirements that manage water quality include requirements to obtain approval from the CVRWQCB for NPDES permits, other discharge permits, SWPPPs, and to implement Best Management Practices. These regulatory requirements are intended to ensure that water quality does not degrade to levels that would violate water quality standards. Through implementation of the General Plan policies and actions listed below, implementation of the Modesto Municipal Code requirements identified below, compliance with mandatory Federal and

State regulations would ensure that impacts to drainage patterns and water quality would be mitigated to a ***less than significant level***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density change would cause a physical change related to hydrology, which would likely result in a need for more storm drainage basin area to account for the increased impervious surfaces. Nevertheless, the increased impervious surface, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing federal, state, and local regulations related to storm drainage and water quality including the discharge permits and MS4 standards; therefore, it would not change the previous impact determination. Implementation of the applicable General Plan goals and policies, and the City's Municipal Code, this impact would not change from the previous impact determination of ***less than significant***.

POLICIES THAT REDUCE OR AVOID IMPACTS

UAGP policies FWQ-9 through FWQ-16 serve to minimize direct impacts to this environmental topic by minimizing discharge of urban pollutants to natural waterways; requiring new development to prepare drainage plans and implement urban runoff control measures; requiring larger Specific Plan developments to have storm drainage systems designed to control pollutant runoff; requiring new development to implement an appropriate selection of permanent pollution control measures; implementing permanent erosion control measures, or otherwise reducing the offsite discharge of particulates and sediment; preservation of areas such as wetlands, riparian corridors, and buffers that provide water quality benefits; and implementing Low Impact Development principles.

Impact 3.9-2: General Plan implementation would not result in the depletion of groundwater supplies or interfere substantially with groundwater recharge or conflict with a groundwater management plan (Less than Significant)

The quantity of ground water in the San Joaquin Valley has been declining for decades, as evidenced by the substantial lowering of water levels in the aquifers. Impacts on groundwater in the Modesto area are an important consideration in any development plan. See Impact 3.14-1 in Section 3.14: Utilities and Service Systems, for further discussions regarding water demand and groundwater supplies. Impacts related to groundwater supplies and interference with groundwater recharge are considered in two ways: (1) conversion of pervious surfaces (which allow for groundwater recharge), and (2) use of groundwater as a water supply (which reduces the amount of local groundwater supply).

Future development projects in the Planning Area would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge in those areas. Infiltration rates vary

depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The City of Modesto is located in the San Joaquin Valley Groundwater Basin (Modesto, Turlock, and Delta-Mendota subbasins). The total storage capacity of the Modesto subbasin is estimated to be 6,500,000 acre-feet (af) to a depth of 300 feet. According to published literature, the amount of stored groundwater in this subbasin as of 1961 is 14,000,000 af to a depth of less than 1000 feet. Natural recharge into the subbasin is estimated to be 86,000 af. There is approximately 92,000 af of applied water recharge. Annual urban and agricultural extractions are estimated to be 81,000 and 145,000 af, respectively (DWR, 2004). Separately, the total storage capacity of the Turlock subbasin is estimated to be 15,800,000 af to a depth of 300 feet and 30,000,000 af to the base of fresh groundwater. Lastly, the Delta-Mendota subbasin has a total storage capacity estimated to be at 30,400,000 af to a depth of 300 feet and 81,800,000 af to the base of fresh groundwater.

The City is a participant in the GSAs that have been formed for the Modesto and Turlock subbasins. Both GSAs are currently developing GSPs per the requirements of SGMA. The City, along with other agencies or private entities, will implement the recommendations of the GSP, when available, in accordance with SGMA.

As discussed in Section 3.14: Utilities and Service Systems, the City's 2020 UWMP documents 2020 and projected future water demands and supplies through 2045, as shown in Tables 3.14-1 through 3.14-8. As described in the UWMP, the City uses a conjunctive water use strategy involving treated surface water supplies from MID and local groundwater supplies from the City's wells to provide the City with flexibility in its water supply system. The City has a number of groundwater supply management programs and infrastructure projects to ensure long-term function of its wells and availability of its groundwater supplies, as described in the City's Water Master Plan. Specifically, the City implements groundwater management activities, a groundwater aquifer storage and recovery program, proposed wellhead treatment activities, and well replacement or development projects that would allow for use of the existing groundwater supply entitlements. In conclusion, as described in the UWMP, the City has sufficient water supply to meet demand in normal, single dry, and multiple dry water years through 2045 with water conservation.

Subsequent development projects under the General Plan would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. However, the majority of the developable areas within the city are currently developed with urban uses. The amount of new pavement and impervious surfaces, and the extent to which they affect infiltration, depends on the site-specific features and soil types of a given project site. Projects located in urban areas would have less of an impact than projects converting open lands and spaces.

Additionally, the City has developed a Stormwater Management Plan (FWQ-11) and a Revised Guidance Manual for Development Storm Water Quality Control Measures (Construction) (FWQ-

13) that are periodically updated to address regulatory changes new BMPs as result of technology. Development in the City is also subject to applicable requirements under Federal and State law to protect water quality. Implementation of these plans and NPDES-permitting programs throughout the county will reduce the City's contribution to potential water quality impacts as a result of UAGP implementation.

Given that implementation and future buildout of the proposed General Plan would not appreciably add to the volume of imperious surfaces in Modesto, when compared to the overall size of the regional groundwater basin recharge area, and that there are adequate water supplies (including groundwater) to serve the projected buildout demand of the General Plan, this potential impact would be ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The increased intensity of development would increase demand for water, which can place increased pressure on groundwater supplies. The density increase will not necessarily generate new population growth, but it will accommodate growth in a more concentrated area. The area is not a recharge area, and all storm drainage that would normally perc would be retained in basins where it would perc in the concentrated areas. All new projects would be subject to the applicable General Plan goals and policies, and adherence to applicable regulatory requirements, and the City would continue to update their Urban Water Management Plan in accordance with regulatory requirements to ensure that the City plans water demand with available supplies. Overall, the density increases would not change from the previous impact determination of ***less than significant***.

POLICIES THAT REDUCE OR AVOID IMPACTS

UAGP policies FWQ-3 through FWQ-16 serve to minimize direct impacts to this environmental topic by restricting development and encroachment into the Tuolumne River and Dry Creek floodplains; meeting the requirements of acceptable urban runoff as established by the Central Valley Regional Water Quality Control Board Basin Plan for surface discharges and Environmental Protection Agency for underground injection; promoting the construction, operation, maintenance, and replacement of storm water drainage facilities; designing development projects to preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands and buffers; and integrating Low Impact Development principles into proposed development project's design.

Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff (Less than Significant)

The City is within the jurisdictional boundary of the CVRWQCB. Under the CVRWQCB NPDES permit system, all existing and future municipal and industrial discharges to surface water within

the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the number of pollutants that can be contained in each facility's discharge.

General Plan implementation has the potential to impact the Planning Area's storm drainage system. The potential impacts would be primarily derived from development in what are now underdeveloped and/or underutilized areas. Construction activities are regulated by the NPDES General Construction Storm Water Permit. Compliance with the storm water permit during construction activities requires the preparation of a SWPPP that contains BMPs to control the discharge of pollutants, including sediment, into local surface water drainages.

A gradual increase in impervious cover associated with new development could increase operational storm water runoff. The City is also required to control stormwater quality to meet applicable regulations. Where required, to meet NPDES permit requirements, stormwater is treated prior to release to natural water bodies within the area. Treatment is provided at detention basin sites, or by on-site source control.

In addition to complying with the NPDES programs and Municipal Code stormwater requirements, the General Plan contains policies and implementation actions to reduce impacts associated with stormwater and drainage including policies which require new development to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Additionally, the General Plan goals and policies require the City to continue to review development projects to ensure that they do not alter the existing drainage patterns(s) in a way that would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff.

New development under the UAGP is required to comply with the City's Stormwater Management Program under its municipal NPDES stormwater permit and Construction General Permit requirements (FWQ-9, FWQ-11, FWQ-13); rehabilitate or install stormwater drainage facilities (FWQ-10); implement construction and post-construction erosion control and stormwater control measures (FWQ-11, FWQ-12, FWQ-13); preserve, create, or restore areas that provide water quality benefits, such as riparian corridors, wetlands, and buffers (FWQ-15); and incorporate Low Impact Development design measures that restrict the amount of post-development runoff from exceeding pre-development conditions (FWQ-16).

Individual future projects developed after adoption of the General Plan would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. In addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the non-point source discharge of pollutants. Anticipated runoff contaminants include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. Contributions of these contaminants to stormwater and non-stormwater runoff would degrade the quality of receiving waters. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces, where they can accumulate until the first

storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported via runoff to stormwater drainage systems. Contaminated runoff waters could flow into the stormwater drainage systems that discharge into rivers, agricultural ditches, sloughs, and channels, and ultimately could degrade the water quality of any of these water bodies.

The General Plan sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. As previously discussed in the Regulatory Setting section of this chapter, future project applicants would be required to obtain permits from the Army Corps of Engineers and the Department of Fish and Wildlife if any work is performed within a waterway. Each future development project must also include detailed project specific floodplain and drainage studies that assess the drainage characteristics and flood risks so that an appropriate storm drainage plan can be prepared to control storm water runoff, both during and after construction. The drainage plan will ultimately include project specific best management measures that are designed to allow for natural recharge and infiltration of stormwater. Construction of storm drainage improvements would occur as part of an overall development or infrastructure project and is considered in the environmental impacts associated with project construction and implementation as addressed throughout this EIR.

The City manages local storm drain facilities and the MID is responsible for regional flood control planning. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. The City has developed the General Plan to include policies and actions that, when implemented, will reduce flooding from new development, reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts.

Through implementation of the General Plan policies and actions listed below, implementation of the Modesto Municipal Code requirements identified above, and compliance with mandatory Federal and State regulations would ensure that impacts related to increased flooding or water quality impacts associated with increased runoff would be mitigated to a ***less than significant*** level.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the impervious surfaces in the more densely populated areas. The density change would cause a physical change related to hydrology, which would likely result in a need for more storm drainage basin area to account for the increased impervious surfaces. Nevertheless, the increased impervious surface, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing

federal, state, and local regulations related to storm drainage and water quality; therefore, it would not change the previous impact determination. Implementation of the applicable General Plan goals and policies, and the City's Municipal Code, this impact would not change from the previous impact determination of ***less than significant***.

POLICIES THAT REDUCE OR AVOID IMPACTS

UAGP policies FWQ-9 through FWQ-16 serve to minimize direct impacts to this environmental topic by requiring compliance with the City's Stormwater Management Program under its municipal NPDES stormwater permit and Construction General Permit requirements; rehabilitating or installing stormwater drainage facilities; implementing construction and post-construction erosion control and stormwater control measures; preserving, creating, or restoring areas that provide water quality benefits, such as riparian corridors, wetlands, and buffers; and incorporating Low Impact Development design measures that restrict the amount of post-development runoff from exceeding pre-development conditions.

Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche (Less than Significant)

FLOOD

The FEMA FIRM for the Planning Area is shown on Figure 3.9-2. The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area. The Tuolumne and Stanislaus Rivers have extensively mapped, designated 100-year and 500- year floodplains. Due to the level topography of the region, the floodplain generally occupies a confined area that follows the river channel, ranging from several hundred yards to 1.5 miles wide. There are no federal flood control facilities in the Modesto urban area.

The General Plan would allow development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. As required by the CWA, each subsequent development project or improvement project will require an approved SWPPP that includes best management practices for grading and preservation of topsoil. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

As described previously in the Regulatory Setting, the City of Modesto regulates storm water discharge in accordance with their NPDES permit through Chapter 10 of the Modesto Municipal Code, Stormwater Management and Discharge Controls. In addition to complying with the NPDES programs and Municipal Code requirements, the General Plan contains policies to reduce impacts associated with stormwater and drainage including policies to maintain sufficient levels of storm drainage service, maintain drainage channels in a naturalized condition where appropriate, and other best practices in order to protect the community from flood hazards and minimize the discharge of materials into the storm drain system that are toxic.

Further, both the City's Storm Drainage Master Plan and Wastewater Master Plan note several stormwater control improvements aimed to protect the City from flooding during storm events. For example, the City's Wastewater Master Plan describes sanitary sewer improvements needed to address future potential deficiencies.

Lastly, the proposed General Plan includes policies and actions in order to reduce impacts associated with flooding. For example, the General Plan includes policies to restrict development in the floodplain (FWQ-3, FWQ-4, FWQ-7, FWQ-8) and thus would avoid exposing persons and property to flood hazards. Furthermore, new development under the UAGP is required to install stormwater drainage facilities (FWQ-10) and incorporate Low Impact Development design measures (FWQ-16), as well as restricting the amount of post-development runoff from exceeding pre-development conditions (FWQ-12). New development is also required to minimize disturbance of natural water bodies and natural drainage systems (FWQ-15). Therefore, implementation of the General Plan would result in a ***less than significant*** impact relative to this topic.

TSUNAMI AND SEICHES

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast).

Modesto is located approximately 68 miles from the Pacific Ocean at an elevation of approximately 89 feet above mean sea level. Based on tsunami inundation maps prepared by the Department of Conservation, California Emergency Management Agency, and California Geological Survey, the City is not identified as being within a tsunami inundation or run-up zone.

Seiches are typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. When the wind stops, the water rebounds to the other side of the enclosed area. The water then continues to oscillate back and forth for hours or even days. In a similar fashion, earthquakes, tsunamis, or severe storm fronts may also cause seiches along ocean shelves and ocean harbors, or other bodies large of water. Any body of water may experience limited oscillation during storm events or following seismic events, however oscillation in small bodies of water is generally limited. In smaller water bodies seiches may have the potential to damage or overtop dams. Generally, in lakes the threat of large-scale damage from seiches comes from downstream flooding that would be caused by large volumes of water overtopping a dam or reservoir.

As described previously, the Planning Area has the potential to be inundated by eight dams: Cherry Valley Dam, Don Pedro Dam, Lake Eleanor Dam, Modesto Res Dam, New Exchequer Dam, O'Shaugnessy Dam, Turlock Lake Dam, and Vermilion Valley Dam. The dam inundation area for each dam is shown in Figure 3.9-3. As such, the City is at significant risk from dam failure. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. As discussed previously, larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of

water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, DSD. The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

Moreover, the UAGP includes policies requiring that appropriate emergency plans are available to provide for the safe evacuation of people from areas subject to inundation from dam failure and requiring development of evacuation routes (FWQ-4). Policy FWQ-1 addresses the City's eligibility for coverage under the federal NFIP, and Policy FWQ-5 provides mechanisms that minimize the potential for loss of life and property damage because of floods. As described above, the UAGP Update also includes policies that restrict development in the flood plain and flood hazard areas (FWQ-3, FWQ-4, FWQ-7, FWQ-8), further reducing the potential risk of loss, injury, or death from flooding.

In addition, man-made lakes within the Planning Area are shallow with limited surface areas and would not generate devastating seiches. The City of Modesto is not within a tsunami hazard area and would not be subject to substantial impacts from seiche events. This is a ***less than significant*** impact and no mitigation is required.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

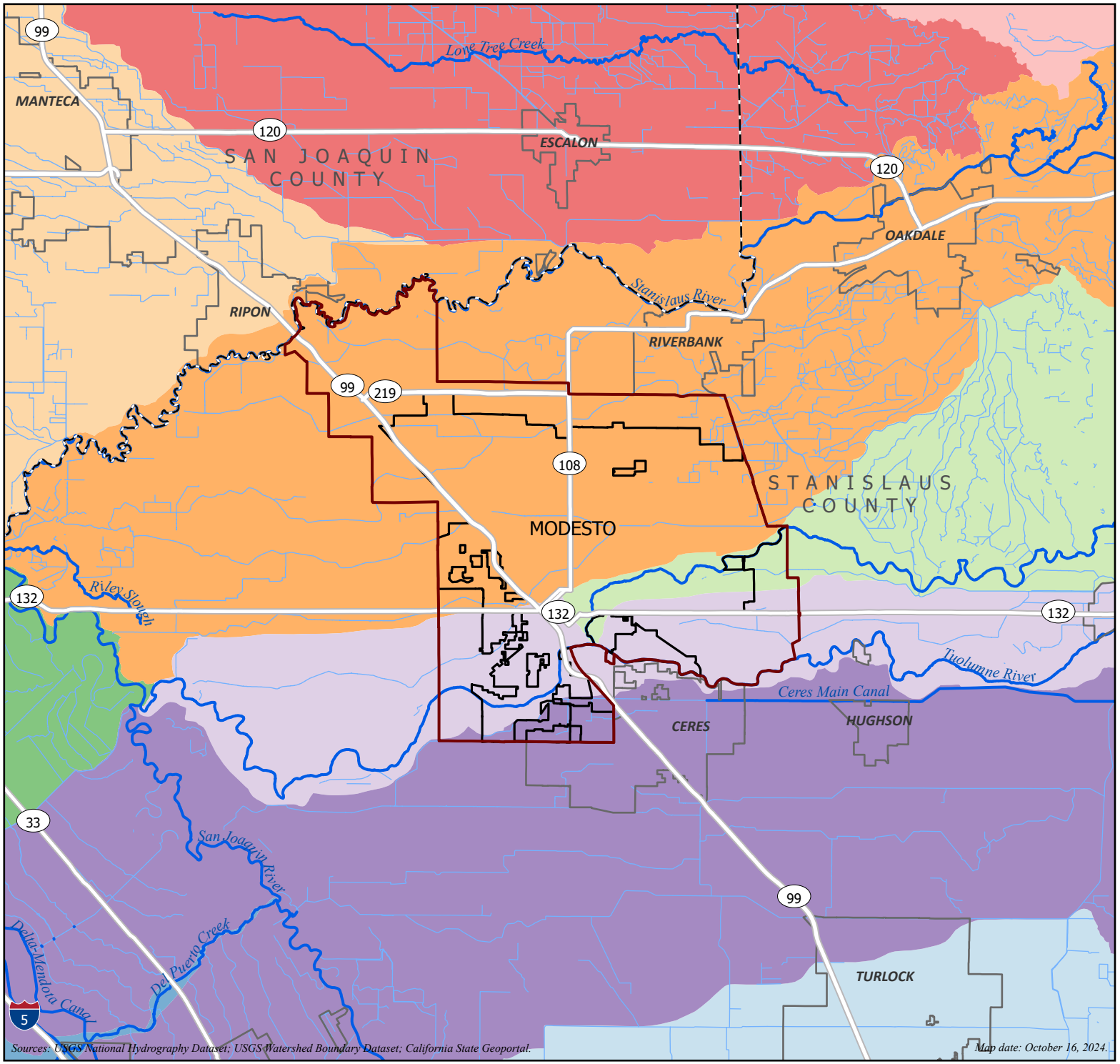
The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the risk of flooding, which is generally at higher risk along the river corridors, however, the higher density will increase the impervious surfaces in the more densely populated which would result in a need for more storm drainage basin area to prevent urban flooding from the new impervious surfaces. All new development would still be subject to all existing federal, state, and local regulations related to storm drainage and flood zones; therefore, it would not change the previous impact determination. Implementation of the applicable General Plan goals and policies, and the City's Municipal Code, this impact would not change from the previous impact determination of ***less than significant***.

POLICIES THAT REDUCE OR AVOID IMPACTS

UAGP policies FWQ-1, FWQ-3, FWQ-4, FWQ-5, FWQ-7, FWQ-8, FWQ-10, FWQ-12, FWQ-15, and FWQ-16 serve to minimize direct impacts to this environmental topic by restricting development in the floodplain; requiring new development under the UAGP to install stormwater drainage facilities; requiring incorporation of Low Impact Development design measures; restricting the

amount of post-development runoff from exceeding pre-development conditions; requiring new development to minimize disturbance of natural water bodies and natural drainage systems; requiring that appropriate emergency plans are available to provide for the safe evacuation of people from areas subject to inundation from dam failure and requiring development of evacuation routes; providing mechanisms that minimize the potential for loss of life and property damage because of floods.

This page left intentionally blank.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.9-1.

WATERSHED MAP

Legend

- City of Modesto
- General Plan Planning Area
- County Area
- Other Incorporated Areas
- Major Water Feature
- Canal, Ditch or Minor Waterway

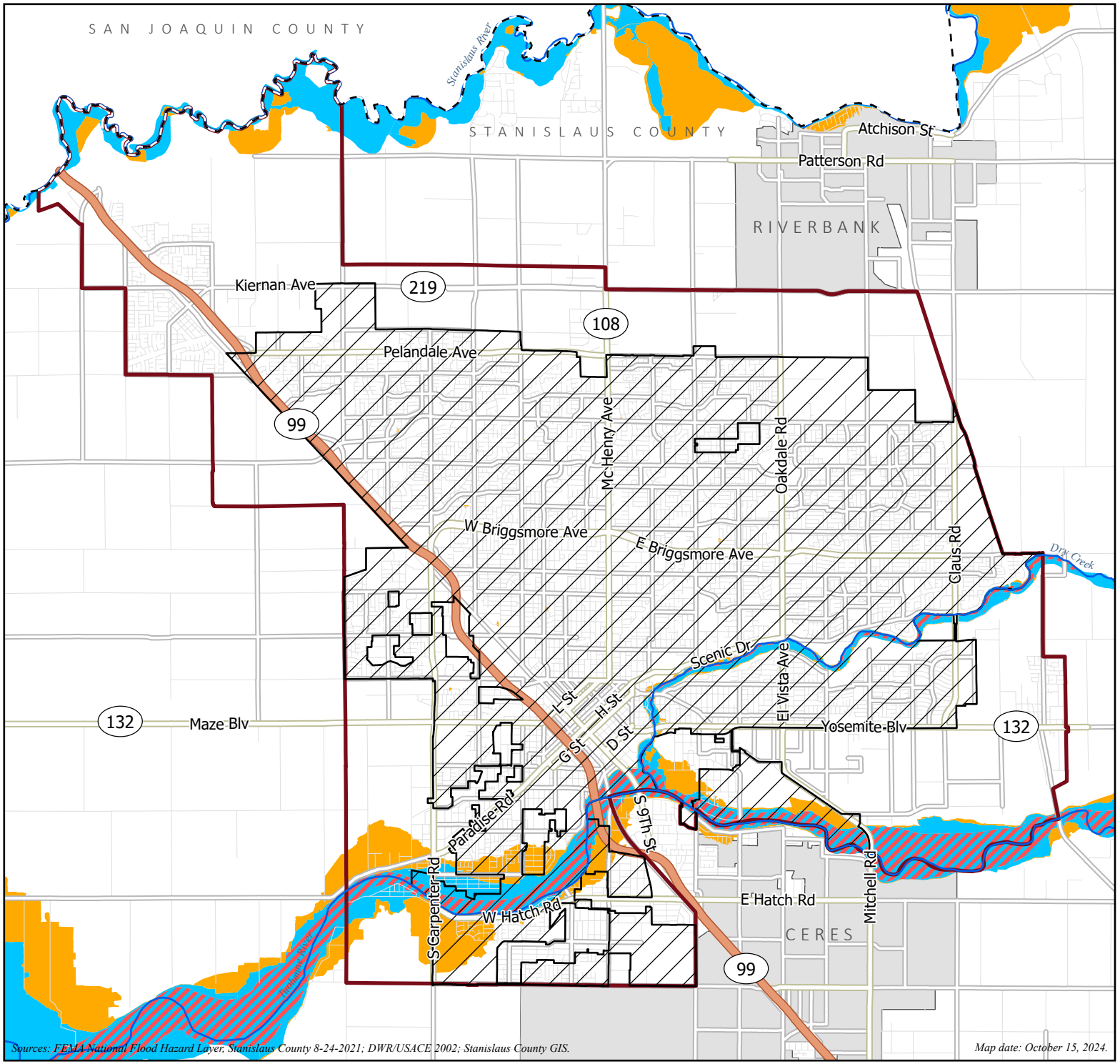
Watershed

- Crow Creek-San Joaquin River
- Del Puerto Creek
- Dry Creek
- Ingram Creek-San Joaquin River
- Littlejohns Creek
- Lone Tree Creek
- Lone Tree Creek-San Joaquin River
- Lower Stanislaus River
- Peaslee Creek-Tuolumne River
- Salado Creek-San Joaquin River

0 2½ 5
Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page left intentionally blank.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.9-2.

FEMA FLOODPLAIN MAP

Legend

- City of Modesto
- General Plan Planning Area
- County Boundary
- Other Municipalities

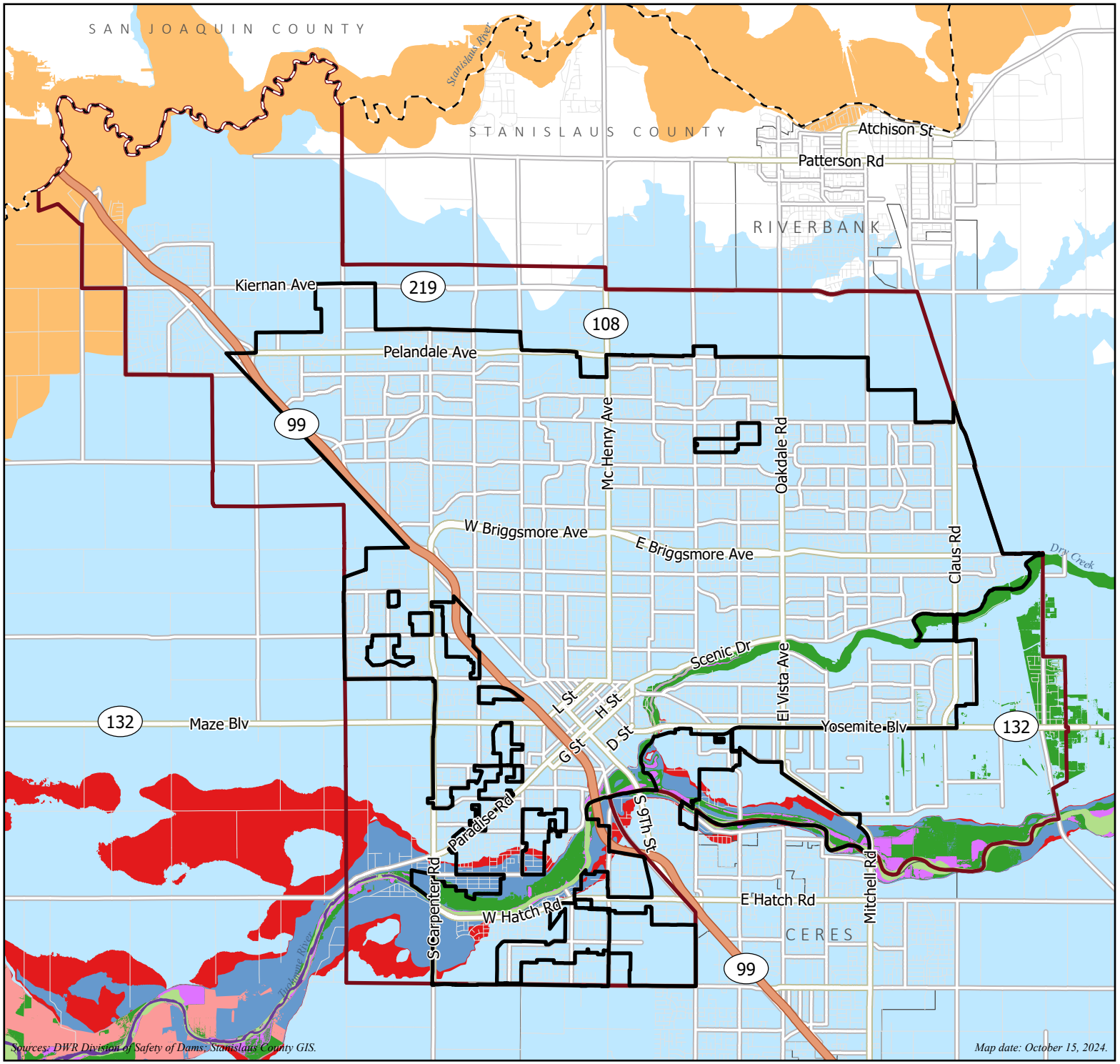
FEMA Designation

- 100-year Floodplain
- Regulatory Floodway
- 500-year Floodplain
- unshaded Area of Minimal Flood Hazard

0 1 2 Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page left intentionally blank.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.9-3.

DAM INUNDATION MAP

Legend

- City of Modesto
- County Boundary
- General Plan Planning Area
- Other Municipalities

Dam Failure Inundation Areas

- Cherry Valley
- Don Pedro
- Lake Eleanor
- Modesto Res
- New Exchequer
- O' Shaughnessy
- Relief/Tulloch
- Turlock Lake
- Vermilion Valley

0 1 2 Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page left intentionally blank.

This section describes existing and proposed land uses in and around the planning area and the potential impacts of the UAGP on these land uses. Information about the planning area and the regional location was obtained from relevant plans, including the City of Modesto Urban Area General Plan (UAGP) and the following reference documents:

- *City of Modesto General Plan (City of Modesto, Adopted March 5, 2019);*
- *Modesto General Plan Master Environmental Impact Report (City of Modesto, 2019);*
- *City of Modesto Municipal Code, Title 10 – Zoning Regulations (City of Modesto, 2024);*
- *Stanislaus County General Plan (County of Stanislaus, 2015);*

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. This environmental setting is the baseline for determining whether an impact of the UAGP is significant.

There were no comments received during the NOP comment period related to this environmental topic.

3.10.1 ENVIRONMENTAL SETTING

EXISTING PHYSICAL ENVIRONMENT

The City of Modesto is located in Stanislaus County in the central San Joaquin Valley, approximately 95 miles east of San Francisco and 80 miles south of Sacramento. The Tuolumne River runs along the southern edge of the city, and the Stanislaus River runs roughly parallel to the northern boundary of the City's urban area. Modesto is intersected by State Route (SR) 99 along the north-south axis and Highway 132 along the east-west axis. In a larger context, the county is bounded by San Joaquin County to the north, Calaveras, Tuolumne, and Mariposa Counties to the east, Merced County to the south, and Santa Clara and Alameda Counties to the west.

Modesto is bordered by the natural greenbelts of the Stanislaus and Tuolumne Rivers. In the long-term future, the San Joaquin River flood plain and anticipated wetlands preserves will separate urban expansions of the SR 99 corridor from those of the I-5 corridor.

Land Use Patterns

The Baseline Developed Area encompasses approximately 22,460 acres, excluding the Downtown Area. The Downtown Area encompasses approximately 710 acres. The Baseline Developed Area and the Downtown Area in Modesto contain mostly developed, urbanized land uses. The approximately 17,525-acre Planned Urbanizing Area is predominantly undeveloped or fallow agricultural land, and minimally if at all supported by urban services and infrastructure.

Existing Land Use Designations

RESIDENTIAL (R)

The Residential (R) land-use designation defines areas where residential land uses would be compatible with other existing and planned land uses throughout the planning area. Residential uses include single-family detached housing and mobile homes. Compatible uses in the residential designation may include schools, parks, and religious or community facilities.

MIXED-USE (MU)

The Mixed-Use (MU) land use designation escribes areas within City limits that are generally developed (as of January 1, 1995) and contain a mixture of all or some of the following uses in close proximity to one another: multi-family residential, commercial, office, and institutional.

COMMERCIAL (C)

The Commercial (C) land-use designation is generally located at intersections along major arterial streets and expressways. This designation includes a variety of service and retail uses, including but not limited to offices, downtown commercial districts, and regional retail centers serving the needs of the entire region.

INDUSTRIAL (I)

The Industrial (I) land use designation is generally located within major tracts oriented to SR 99 and to the three railroads serving the urban area. This designation includes manufacturing, food processing, trucking, packing, and recycling, as well as those enterprises that may want to combine office and production aspects of their business in the same complex.

REDEVELOPMENT PLANNING DISTRICT (RPD)

The Redevelopment Planning District (RPD) is a land use designation applied within redevelopment areas of Modesto. This designation includes housing and is defined by an urban forest system and transportation access.

VILLAGE RESIDENTIAL (VR)

The Village Residential (VR) land-use designation provides for the development of urban “villages” defined by mixed-use compact, pedestrian- and transit- oriented development.

REGIONAL COMMERCIAL (RC)

The Regional Commercial (RC) land-use designation is located in large scale commercial areas for the sale of goods and services that meet the needs of the entire region.

BUSINESS PARK (BS)

The Business Park (BP) land-use designation is located with adequate access to regional traffic routes and transit corridors. This designation provides for areas of light industrial and employment-intensive uses. Regional Commercial uses are also permitted in Business Parks.

OPEN SPACE (OS)

Land uses in the Open Space (OS) designation will include low-impact recreational facilities, public ownership, low-density residential, and agriculture. This designation is to provide for regional recreational open space (active and passive) along the Tuolumne River, Stanislaus River, and Dry Creek. Community and neighborhood parks and other smaller open space areas can be accommodated in any land use designation.

SALIDA COMMUNITY PLAN (SCP)

The Salida Community Plan (SCP) designation applies to the Salida area. The City does not propose to change any land use policies or designations from those established by Stanislaus County (County), so the Salida Community Plan, as adopted by Stanislaus County in August 2007, would continue to regulate growth and development for this area. Additional land-use category information is located in Chapter III of the UAGP.

Planning Areas

DOWNTOWN AREA

The Residential (R) land-use designation defines areas where residential land uses would be compatible with other existing and planned land uses throughout the planning area. Residential uses include single-family detached housing and mobile homes. Compatible uses in the residential designation may include schools, parks, and religious or community facilities.

BASELINE DEVELOPED AREA

The Baseline Developed Area, comprising approximately 22,460 acres, excluding the Downtown Area, contains lands that are mostly developed with urban uses, which are not expected to change substantially during the time horizon of this plan. Also included within the Baseline Developed Area are vacant lands which have a clearly defined future.

PLANNED URBANIZING AREA

Future development within the approximately 17,445-acre Planned Urbanizing Area (PUA) will occur on land which is predominantly flat, vacant and/or developed with agricultural uses, and minimally if at all served with urban services and infrastructure, including roads. Approximately 12,610 acres of the PUA are located within the sphere of influence, excluding the Downtown and Baseline Developed Areas. The PUA is expected to absorb substantial urban development in a comprehensively planned manner. For this reason, the land uses projected by the Land Use Diagram

in Chapter III of the General Plan will be implemented through CPDs, as defined and explained in Chapter III.

3.10.2 REGULATORY SETTING

STATE

Government Code

The Planning, Zoning, and Development Law (Government Code Section 65100 et seq.) establishes the basic requirements for local general plan content. Each city and county is allowed to apply the requirements in a way "that accommodate[s] local conditions and circumstances." Government Code Section 65302 provides that each general plan must include land use, housing, circulation, conservation, open space, noise, and safety elements.

These elements may be adopted "in any format deemed appropriate or convenient by the legislative body, including the combining of elements." (Government Code Section 65301).

The Cortese-Knox-Herztberg Local Government Reorganization Act of 2000 (Government Code Section 56300 et seq.) establishes the county Local Agency Formation Commission (LAFCo) and empowers it to consider and approve city and special district annexation, dissolution, and formation. The Act requires the LAFCo to apply good planning principles to its decisions, including conservation of agricultural land, compact growth patterns, and efficient provision of government services.

LOCAL

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as LLUP-*X,* where *X* is the discrete number).

Stanislaus County General Plan

The County General Plan applies to the unincorporated lands surrounding Modesto, including lands within the City's sphere of influence. Lands within the city limits are not governed by the County General Plan. The County General Plan has the following applicable policies.

LAND USE ELEMENT POLICIES

LUP-1: Land will be designated and zoned for agricultural, residential, commercial, industrial, or historical uses when such designations are consistent with other adopted goals and policies of the general plan. (Policy One)

LUP-2: Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty. (Policy Two)

LUP-3: Expansion of urban boundaries of unincorporated communities should be based on infilling and elimination of existing "islands" and should not permit leapfrog development or create new "islands." (Policy Thirteen)

LUP-4: Uses should not be permitted to intrude into or be located adjacent to areas that are identified as existing and/or potential sites for solid waste facilities if such uses would not be compatible. (Policy Fifteen)

LUP-5: Agriculture, as the primary industry of the County, shall be promoted and protected. (Policy Seventeen)

LUP-6: New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems. (Policy Twenty-Five).

LUP-7: Development, other than agricultural uses and churches, which requires discretionary approval and is within the sphere of influence of cities or in areas of specific designation created by agreement (e.g., Sperry Avenue and East Las Palmas Corridors), shall not be approved unless first approved by the city within whose sphere of influence it lies or by the city for which areas of specific designation were agreed. Development requests within the spheres of influence or areas of specific designation of any incorporated city shall not be approved unless the development is consistent with agreements with the cities which are in effect at the time of project consideration. Such development must meet the applicable development standards of the affected city as well as any public facilities fee collection agreement in effect at the time of project consideration. (Comment: This policy refers to those development standards that are transferable, such as street improvement standards, landscaping, or setbacks. It does not always apply to standards that require connection to a sanitary sewer system, for example, as that is not always feasible.)

LUP-8: Whenever an application is to be considered which includes property within the sphere of influence of a city or special district (e.g., sewer, water, community services) or areas of specific designation created by agreement between County and City, the following procedures should be followed:

1) Development, other than agricultural uses and churches, which requires discretionary approval from incorporated cities shall be referred to that city for preliminary approval. The project shall not be approved by the County unless written communication is received from the city memorializing their approval. If approved by the city, the city should specify what conditions are necessary to ensure that development will comply with city development standards. Requested conditions for such things as sewer service in an area where none is available shall not be imposed. Approval from a city does not preclude the County decision-making body from exercising discretion, and it may either approve or deny the project.

2) Agricultural uses and churches which require discretionary approval should be referred to that city for comment. The County Planning Commission and Board of Supervisors shall

consider the responses of the cities in the permit process. If the County finds that a project is inconsistent with the city's general plan designation, it shall not be approved. Agricultural use and churches shall not be considered inconsistent if the only inconsistency is with a statement that a development within the urban transition area or sphere of influence shall be discouraged (or similar sweeping statement). The city shall be asked to respond to the following questions:

a) Is the proposed project inconsistent with the land use designation on the city's general plan? If so, please include a copy of the map (or that portion which includes the subject property) and the text describing uses permitted for the general plan designation. All findings of inconsistency must include supporting documentation.

b) If the project is approved, specifically what type of conditions would be necessary to ensure the development will comply with city development standards such as street improvements, setbacks and landscaping? In the case of a proposed project within the sphere of influence of a sanitary sewer district, domestic water district or community services district, the proposal shall be forwarded to the district board for comment regarding the ability of the district to provide services. If the district serves an unincorporated town with a Municipal Advisory Council (MAC), the proposal shall also be referred to the MAC for comment.

Other land use regulations in Stanislaus County include the following:

LUP-9: The Stanislaus County General Plan contains an Urban Transition designation to ensure that land remains in agricultural usage until urban development consistent with a city's (or unincorporated community's) general plan designation is approved. The Urban Transition designation is appropriate for undeveloped land located within the LAFCo-established sphere of influence of a city or town.

LUP-10: The Stanislaus County Airport Land Use Commission Plan discourages locating new uses that concentrate large numbers of people or that involve the handling of hazardous materials under airport approaches within its planning area. It advises against development that would interfere with communications, visibility, and exceed height limitations. It encourages jurisdictions to make land use changes from incompatible uses to compatible uses, and to relocate existing non-conforming uses.

City of Modesto Urban Area General Plan

LUP-11: Zoning within the incorporated City limits should be, and generally is, consistent with the General Plan Land Use Designations as presented on the Land Use Diagram. However, because these designations are broad in nature, there may be minor instances in which the existing zoning for a particular property is not consistent with the Land Use Designation for the property. These situations are still considered to be consistent with the overall goals and

policies of the General Plan, and development of these properties may occur consistent with zoning. (UAGP Policy III.A.1)

LUP-12: Rezonings should also be consistent with the General Plan Land Use Designations. However, rezonings involving less than five (5) acres may occur even if they are not consistent with the Land Use Designation for the property, as long as the rezoning can be found consistent with the Land Use goals and policies of the General Plan. Rezonings of five (5) acres or more that are inconsistent with the applicable Land Use Designation(s) will require a General Plan amendment. (UAGP Policy III.A.2)

LUP-13: Facilitate infill development through active leadership and strategic provision of infrastructure and services, and supporting land uses. Provide incentives for infill development, redevelopment and growth in existing urbanized areas to enhance community character, optimize infrastructure investments, support increased transit use, promote non-motorized transportation, increase housing diversity and enhance commercial viability. Structure fee programs so that infill development is "priced" according to its relative infrastructure efficiencies and the community-wide benefits to be realized. (UAGP Policy III.B.1)

LUP-14: To maximize economic and social benefits, and resource efficiencies, prioritize and focus new development within the existing City limits. This will strengthen existing neighborhoods and maximize efficiencies of utility and infrastructure systems. New development should be accessible via all modes of transportation, both motorized and non-motorized, with an emphasis on availability of public services. (UAGP Policy III.B.2)

LUP-15: Complete neighborhoods promote livability, sustainability and safety for all residents. Neighborhoods are to contain: a mix of housing types including affordable and market-rate; a range of services and facilities such as schools, parks, retail, services & civic facilities; transit access within ½-mile of all dwelling units; and, complete streets with tree canopy cover that accommodate both motorized and non motorized mobility. (UAGP Policy III.C.1)

LUP-16: Preserve, protect, and enhance established neighborhoods by providing sensitive transitions between and among adjoining neighborhoods, and by requiring new development – both private and public – to respect and respond to those existing physical characteristics, buildings, streetscapes, open spaces, and urban form that contribute to the overall character and livability of the neighborhood. (UAGP Policy III.C.2)

LUP-17: Corridor Studies guide infill development, and re-use / recycling of existing development, along major transportation corridors. Such development will balance vehicular circulation and access against all other travel modes – both motorized and non-motorized. Development along major transportation corridors should mix land uses effectively so that housing, retail and service needs are combined with pedestrian-friendly facilities and gathering places. (UAGP Goal III.D)

LUP-18: Development along major transportation corridors that occurs pursuant to an adopted corridor study should be compact, mixed-use, transit- / bicycle- / pedestrian-friendly, and scaled appropriately to match the context and transition to existing nearby neighborhoods. (UAGP Goal III.E)

LUP-19: Downtown Modesto is a high-priority area for both public and private investment. Therefore, the City should prioritize and focus infrastructure investments here. Downtown is planned to become a more urban, higher-density, mixed-use, pedestrian-oriented, economically vibrant, innovative center for living, working, socializing and recreating. (UAGP Goal III.F)

LUP-20: Commercial development should strengthen the vehicular, pedestrian and visual connections between shopping centers and their surrounding neighborhoods, and between neighboring retail sites, through physical improvements, public transit and coordinated land use and transportation planning. (UAGP Goal III.G)

LUP-21: Locate employment-intensive uses, such as medical and professional offices, light industry, R&D and skill training, in appropriate areas as designated by the General Plan and the zoning map. Locate Business Parks, Industrial development and other employment centers near access points to major transportation facilities so that they are accessible by all modes of transportation. (UAGP Goal III.H)

LUP-22: Since each Comprehensive Planning District contains a number of properties, unified direction from affected property owners should be encouraged, particularly for privately-initiated applications. In the case of disparate or unknown development intentions, the City may proactively seek consensus from affected property owners. (UAGP Policy III.I.2)

LUP-23: The Specific Plan(s) within each CPD should follow the policies and procedures as outlined in the City of Modesto's Specific Plan Procedures and Preparation Guide (Guide), which identifies all subsequent land use approvals required to be consistent with the Specific plan. The Guide should be updated in order to keep it current with regard to policies and practices. (UAGP Policy III.I.3)

LUP-24: Each Specific Plan should be accompanied by a long-range financing strategy that provides reasonable estimates of the costs of on- and off-site infrastructure to support the proposed development pattern. The strategy should generally address public facility funding for any development project that serves to implement the subject Specific Plan. If new public facilities are required that will also serve the broader community, the Specific Plan should include options for broad-based funding mechanisms. Each Specific Plan should address the need to provide water, wastewater and storm drainage infrastructure, in the context of the required Facilities Master Plan and Infrastructure Master Plan prepared at the developer's expense. (UAGP Policy III.I.4)

LUP-25: More than one Specific Plan may be processed within a given CPD, as long as the remaining area within the CPD can still comply with the General Plan policies presented in this chapter. Conversely, a Specific Plan can be used to implement more than one CPD, when those districts are adjoining. A CPD may consist of more than one Specific Plan provided that the Specific Plans are consistent, compatible, and complement one another. This is particularly important for issues related to, but not limited to, land use plans, circulation plans and the Specific Plans' financing sections (which must be correlated to provide for adequate infrastructure throughout the CPD). If Specific Plans are adopted at different times within a CPD, the first Specific Plan should include an infrastructure plan for the entire CPD. (UAGP Policy III.I.5)

Municipal Code, Title 10 – Zoning Regulations

Title 10 of the Municipal Code is the City's Zoning Regulations. The Zoning Regulations carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. The Zoning Regulations is adopted to protect and promote public health, safety and general welfare and to provide the physical, economic and social advantages resulting from an orderly, planned use of land resources and to regulate land use and development in accordance with the Modesto General Plan

Other Governing Bodies

STANISLAUS COUNTY LOCAL AGENCY FORMATION COMMISSION

State law established the Stanislaus County LAFCo to administer the local government reorganization process. This includes incorporation of new cities, formation of special districts, annexations to cities and special districts, and establishment of spheres of influence for all cities and special districts. The LAFCo is responsible for the orderly provision of services and the conservation of agricultural and open-space lands. It is composed of elected officials from Stanislaus County and its cities, as well as members-at-large. The LAFCo decides whether land is to be annexed to the City of Modesto and which agency (i.e., county, city, or special district) will provide services to newly annexed areas.

CITY OF CERES

The City of Ceres is located directly south of Modesto. Its sphere of influence abuts the Modesto planning area. Ceres has adopted its own general plan that guides development within the city. Land use in the unincorporated areas surrounding Ceres is regulated by the County.

CITY OF RIVERBANK

The City of Riverbank is located directly north of Modesto. Its sphere of influence abuts the Modesto planning area. Riverbank has adopted its own general plan that guides development within the city. Land use in the unincorporated areas surrounding Riverbank is regulated by the County.

STANISLAUS COUNCIL OF GOVERNMENTS

The Stanislaus Council of Governments is the region's transportation planning agency and prepares the Regional Transportation Plan (RTP) (Government Code Section 65080, et seq.). Along with the Regional Transportation Improvement Program, the RTP is the basis for state and federal funding of transportation improvements. The RTP describes the proposed, priority transportation system, including roads, mass transit, and pedestrian and bicycle facilities for the county. The RTP also describes the region's transportation objectives and policies. It contains an action element describing the programs that will implement the plan, as well as a financial element describing the cost of plan implementation. The 2014 RTP includes a Sustainable Communities Strategy (SCS). The 2014 RTP/SCS presents a strategy to accommodate the anticipated growth in the region, while promoting economic vitality and providing more housing & transportation choices, and to meet the goals of state climate change laws such as AB32 and SB375.

STANISLAUS COUNTY LOCAL AGENCY FORMATION COMMISSION

State law established the Stanislaus County LAFCo to administer the local government reorganization process. This includes incorporation of new cities, formation of special districts, annexations to cities and special districts, and establishment of spheres of influence for all cities and special districts. The LAFCo is responsible for the orderly provision of services and the conservation of agricultural and open-space lands. It is composed of elected officials from Stanislaus County and its cities, as well as members-at-large. The LAFCo decides whether land is to be annexed to the City of Modesto and which agency (i.e., county, city, or special district) will provide services to newly annexed areas.

AIRPORT LAND USE COMPATIBILITY PLAN

Pursuant to Public Utilities Code sections 21670–21679.5, Airport Land Use Commissions (ALUCs) have the authority to regulate land use decisions in the vicinity of airports in order to "protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to the extent that these areas are not already devoted to incompatible uses." The commission's chief business is to prepare and enforce a land use plan for the area surrounding each general aviation airport in the county. After adopting an airport land use compatibility plan, the ALUC is to review the land use plans and zoning ordinances of cities and other local agencies (such as school districts) that affect the area within the airport planning boundary established by the ALUC. Section 21676 provides that local agencies whose general plan includes areas covered by an ALUC plan must submit a copy of its general plan and specific plans to the commission. Before amending a general plan or specific plan or adopting a zoning ordinance that overlaps with the ALUC's plan boundaries, the local agency must first refer the proposed action to the ALUC. The local agency may only adopt a general plan or specific plan or zoning ordinance that conflicts with the ALUC plan upon a 2/3rds majority vote of its legislative body.

In 2003, the legislature limited the ability of local agencies to overrule the ALUC (Assembly Bill [AB] 332). A local agency that proposes to overrule the ALUC must first provide the ALUC and the California Department of Transportation (Caltrans) Division of Aeronautics, with the proposed decision at least 45 days in advance. Any comments by the ALUC or Division of Aeronautics must be included in the final record of the local agency's final decision to overrule the ALUC.

The Stanislaus County ALUC has adopted an airport land-use compatibility plan for the Modesto City-County Airport with the plan's boundaries being the outer boundaries of the Modesto City-County Airport Approach and Clear Zone Plan (Stanislaus County Airport Land Use Commission 2016). This is an oval area generally encompassing the central, eastern, and southeastern portions of the Modesto planning area and the City of Ceres

NATURAL HABITAT PLANNING AND OPEN SPACE CONSERVATION PROGRAMS

Although there are no relevant habitat conservation plans (HCPs) or natural community conservation plans (NCCPs) in the City of Modesto, there are three riparian corridors within the planning area (Dry Creek, Stanislaus River, Tuolumne River) that are designated as CPDs under the UAGP. Development within these areas is subject to a Specific Plan per Policies III.J.1 and 3 of the UAGP. The Tuolumne River CPD includes a significant amount of public land owned by a joint powers authority (JPA) made up of Modesto, Ceres, and Stanislaus County. The JPA has completed and the City has certified a Master EIR for the TRRP Master Plan.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on land use and planning if it will:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Project implementation would not physically divide an established community (Less than Significant)

The policies of the UAGP would not result in physical division of an established community, conflict with applicable plans or policies, or land use/operational conflicts between existing and proposed

uses. Policies LUP 11 through LUP 21 prescribe a comprehensive, integrated approach to new development, taking into consideration economic and social outcomes of policy implementation in the "real world." As a result, any impact(s) relative to land use and planning within the existing City would be less than significant.

The UAGP does not identify any land use designations that would divide an established community, and the UAGP includes several policies that serve to build community, including promoting the variety of land uses and techniques needed for walkable communities and non-motorized transportation in general.

The UAGP distributes land uses to minimize land use impacts and contains specific goals and policies to mitigate existing or potential conflicts. The UAGP strives to preserve, revitalize, and ensure compatibility throughout the City by promoting mixed-use and transit-oriented development in strategic locations, redevelopment of blighted areas and the Downtown planning area, and preservation of historic neighborhoods (see policies LUP 13 through LUP 19, above). Additional guidance ensures quality development and integration with surrounding areas (policies LUP 22 through LUP 25). Furthermore, these policies do not conflict with any other applicable plan(s), policy(ies) or regulation(s). Therefore, the impacts of development on the Planned Urbanizing Area related to the potential for UAGP implementation to physically divide an established community are considered ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a less than significant impact. In effect, the density change would not cause any direct physical changes related to the potential to physically divide a community, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The policies contained in the UAGP listed in Section A-4, Existing Policies Applying to the Study Area, above (policies LUP-11 through LUP-25), would eliminate any potential direct impacts by promoting mixed-use developments and transit-oriented development in strategic locations, and requiring the comprehensive planning of new development areas.

Impact 3.10-2: The Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect (Less than Significant)

The UAGP was prepared in conformance with State laws and regulations associated with the preparation of general plans, including requirements for environmental protection. Discussion of the General Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. The State would continue to have authority over any State-owned lands in the vicinity of the city and the General Plan would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

As set forth by State law, the General Plan serves as the primary planning document for the City and subordinate documents and plans would be updated to be consistent with the General Plan. The UAGP carries forward and enhances policies and measures from the City's existing General Plan that were intended for environmental protection and would not remove or conflict with City plans, policies, or regulations adopted for environmental protection. The UAGP would require modifications to the City's Zoning Ordinance to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Modesto Municipal Code that were adopted to mitigate an environmental effect.

Environmental impacts, including aesthetics, air quality, biological resources, noise, transportation and traffic, and utilities, associated with potential development under the UAGP are discussed in Sections 3.1 through 3.9 and 3.11 through 4.0 of this Draft EIR.

Subsequent development and infrastructure projects would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the City as well as those adopted by agencies with jurisdiction over components of future development projects. Any potential environmental impact associated with conflicts with land use requirements would be ***less than significant***. The policies listed below would ensure that the General Plan does not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a less than significant impact. In effect, the density change would not cause any direct physical changes related to the potential to conflict with an applicable land use plan, policy, or regulation of an agency with

jurisdiction over the Project adopted to avoid or mitigate an environmental effect, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The policies contained in the UAGP listed in Section A-4, Existing Policies Applying to the Study Area, above (policies LUP-11 through LUP-25), would eliminate any potential direct impacts by promoting mixed-use developments and transit-oriented development in strategic locations, and requiring the comprehensive planning of new development areas.

Impact 3.10-3: The Project would not induce substantial population growth in an area (Less than Significant)

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way in which a proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply or wastewater treatment/collection in an area where this service historically limited growth could be considered growth-inducing.

The State CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The timing, magnitude, and location of land development and population growth in a region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Since the general plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in California.

GROWTH EFFECTS OF THE UAGP

The UAGP Growth Strategy Diagram identifies three subareas within the Modesto Planning Area: the Downtown Area, the Baseline Developed Area, and the Planned Urbanizing Area.

The Downtown has been the focal point of planning and zoning efforts, such as establishing the Downtown Zones that facilitate increased development potential both in terms of density / intensity, and in accommodating a broader range of land uses and development types. The purposes of focusing on Downtown for new growth and development are to enhance the economic vitality of the City, reduce costs associated with provision of services and reduce the potentially negative environmental consequences associated with the sprawl-type development patterns that have been commonplace throughout the region over the past century.

Within Downtown, the UAGP would reflect existing zoning. As a result, this area generally would be developed according to the existing zoning designations. If a subsequent project within this area conforms to the UAGP, the initial study for the project would find it to be within the scope of this EIR and no future environmental review would be required unless there could be a project-specific impact that was not analyzed in the EIR.

All mitigation measures adopted as part of the 2019 EIR and applicable to the Downtown Area remain in effect and are incorporated into the new Program EIR. Additionally, the City will file a notice for future projects where it is found that the future project is within the scope of the new Program EIR.

The Baseline Developed Area reflects areas that are developed or anticipated to develop according to existing zoning. If a subsequent project within this area conforms to the UAGP, the initial study for the project would find it to be within the scope of this EIR and no future environmental review would be required unless there is a project-specific impact that was not analyzed in the EIR.

All mitigation measures adopted as part of the 2019 EIR and applicable to the Baseline Development Area will be incorporated into the new Program EIR. Additionally, the City will file a notice for future projects where it is found that the future project is within the scope of the new Program EIR.

The Planned Urbanizing Area encompasses the Comprehensive Planning Districts (CPDs) identified in Chapter III of the adopted UAGP. This area accommodates most of the City's growth through 2040. For development to proceed in an orderly fashion, development in each CPD would be restricted until a Specific Plan(s) for that CPD has been adopted by the City. The Specific Plan would implement the UAGP policies identified in Chapter III of the UAGP and establish development policies specific to that CPD. This includes the policies requiring adoption of one or more specific plans to specify the intensity and location of development within the CPD. In conjunction with the Specific Plan process, additional environmental analyses and documentation would routinely occur.

Given the historical and current population, housing, and employment trends, growth in the city, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Modesto during the planning period of the UAGP, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the UAGP new roads, infrastructure, and services would be necessary to serve the development, and this infrastructure would accommodate planned growth. The UAGP is intended to accommodate the City's fair share of statewide housing needs, which are allocated by the StanCOG, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every eight years).

With implementation of UAGP, policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the UAGP, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds, beyond those disclosed and anticipated in the UAGP. Therefore, population and housing growth associated with the UAGP would result in a ***less than significant*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes do not change the existing UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. They do, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). Table 2.0-2 of Chapter 2.0, Project Description, presents the existing and proposed densities and realistic yield for vacant and underutilized parcels within the City limits with these zoning designations. The existing realistic yield is 11,085 units, and the proposed density increases would increase the capacity to 19,615 units

within the city limits. This represents an increase of 8,530 units described in Chapter 2.0. The increase in capacity within the City limits is considered growth inducement within the city limits.

In addition to the growth inducement within the city limits, the density charges would increase the existing realistic yield outside the city limits (but within the UAGP planning area) from 28,321 units to 41,628 units. This represents an increase of 13,307 units of capacity in the UAGP planning area outside the city limits. Figure 2.5 illustrates the location of the developable R and VR parcels outside the city limits that would be affected by the density changes. The increase in capacity within the UAGP planning area outside the city limits is considered growth inducement.

Assuming an average household size of 3.0 persons per household for the City of Modesto[1], the population capacity of the undeveloped residential land under existing conditions is estimated at 33,255 people (11,085 units x 3.0 persons per unit). The proposed density amendments would increase the capacity within city limits to 19,615 residential units, representing a net gain of 8,530 units. Using the same household size of 3.0 persons per household, the proposed population capacity within the city limits is estimated at 58,845 people (19,615 units x 3.0 persons per unit), an increase of 25,590 people within the undeveloped residential lands.

As mentioned prior, the proposed density increases would also have implications beyond the city limits. Under existing conditions, the realistic yield for housing planned outside city boundaries is estimated at 28,321 units, which equates to a population capacity of 84,963 people (28,321 units x 3.0 persons per unit). The proposed changes would increase this capacity to 41,628 units, resulting in a net gain of 13,307 units. Using the same household size, the proposed population capacity outside the city limits would be 124,884 people (41,628 units x 3.0 persons per unit), an increase of 39,921 people.

In total, the amendments could increase residential capacity by 21,837 units (8,530 units within city limits and 13,307 units outside city limits). This increase corresponds to a population capacity of 65,511 people (21,837 units x 3.0 persons per unit) in the undeveloped residential lands. The additional population capacity is a response to housing needs and anticipated population growth of the area, but does not directly increase population. The density changes aligns with the development patterns and population increases within areas already identified for urban expansion and higher-density residential uses anticipated in the UAGP Growth Strategy.

While the density changes would induce growth by increasing the capacity of housing within the existing UAGP planning area, the change of densities and increase in capacity is a response to several factors. First, the State Legislature has made repeated determinations in recent years that California is facing a statewide housing crisis and the State has provided the City with good reason to exercise

[1] US Census Bureau, Decennial Census 2000, Table DP1 SF2; American Community Survey 5-Year Data 2010 and 2020, Table S1101

its legislative discretion to facilitate the construction of new housing. Government Code section 65889.5, subdivision (a)(1)(A), states that "[t]he lack of housing, including emergency shelters, is a critical problem that threatens the economic, environmental, and social quality of life in California." Subdivision (a)(1)(D) of that section adds that "[m]any local governments do not give adequate attention to the economic, environmental, and social costs of decisions that result in disapproval of housing development projects, reduction in density of housing projects, and excessive standards for housing development projects." The density changes are a response to the existing crisis by increasing capacity without increasing the UAGP planning area. This is consistent with the objectives of the proposed Project as provided below:

- Amend the land use and zoning densities in accordance with the adopted Modesto Housing Element;
- Comply with new State and Federal laws;
- Provide improved transportation alternatives, including transit, bicycle & pedestrian facilities;
- Facilitate an improved mix of land uses to reduce vehicle miles traveled by locating residential land uses close to employment, retail and services;
- Promote infill development;
- Provide framework for intensified development in Modesto's downtown area;
- Align Modesto's land use and transportation goals and policies;
- Establish a realistic set of assumptions for infrastructure needs and funding;
- Facilitate complete, safe and walkable neighborhoods;
- Provide for a variety of transportation options;
- Promote equitable, affordable housing;
- Support existing neighborhoods / communities; and,
- Maintain the General Plan and Sphere-of-Influence boundaries (for purposes of defining the proposed project to be analyzed under CEQA).

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, and it would not cause any direct physical impacts regarding physical environmental topics, and all applicable policies and mitigation measures from the 2019 UAGP and UAGP EIR would apply. As such, the growth inducement that would result from the density changes would be considered a ***less than significant*** impact.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The policies contained in the UAGP listed in Section A-4, Existing Policies Applying to the Study Area, above (policies LUP-11 through LUP-25), would eliminate any potential direct impacts by promoting mixed-use developments and increased density development in strategic locations.

Impact 3.10-4: The Project would not displace substantial numbers of people or existing housing (Less than Significant)

The majority of developed land in the Planning Area is comprised of residential uses, which are not anticipated to undergo significant land use changes under the UAGP. The UAGP focuses on providing amendments to the zoning ordinance to rezone four corridors to mixed-use, and to change zoning densities to allow more residential development. The increase in dwelling units allows for the diversification of the City's housing supply to meet the needs of the community at various socioeconomic levels. Development allowed under the UAGP is not anticipated to result in any significant displacement of people or housing. This is a ***less than significant*** impact and no mitigation is required. The policies listed prior would further ensure that a range of housing types are provided in the City, and that housing conditions are evaluated as the housing supply ages.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a less than significant impact. In effect, the density change would not cause any direct physical changes related to the potential for any significant displacement of people or housing, therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The policies contained in the UAGP listed in Section A-4, Existing Policies Applying to the Study Area, above (policies LUP-11 through LUP-25), would eliminate any potential direct impacts by promoting mixed-use developments and increased density development in strategic locations.

This Page Intentionally Left Blank.

This chapter discusses the existing ambient noise conditions in the City of Modesto and evaluates the potential noise impacts of building out future land uses anticipated in the City of Modesto Urban Area General Plan (UAGP) (the "Project") on the City's noise environment.

There were no comments received during the NOP comment period related to this environmental topic.

3.11.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Ldn	Day/Night Average Sound Level. Like CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event

3.11 NOISE

TERMINOLOGY OF ACOUSTICS

Noise: Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of ten decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each ten-decibel increase in sound level is perceived as approximately a doubling of loudness over a wide range of intensities.

There are several methods of characterizing sound. The most common in California is the A- weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 1. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy- equivalent sound / noise descriptor is called Leq. The most common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus one dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus one to two dBA.

Since the sensitivity to noise increases during the evening and at night – because excessive noise interferes with the ability to sleep – 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a five (5) dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The Day/Night Average Sound Level (Ldn or DNL) is essentially the same as CNEL, with the exception that the evening time is dropped and all occurrences during this three- hour period are grouped into the daytime period.

TABLE 3.11-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has established a noise exposure standard which is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 85 dBA averaged over eight hours. If the noise is above 85 dBA, the allowable exposure time is correspondingly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Typically, the highest steady traffic noise level during the daytime is about equal to the Ldn and nighttime levels are ten (10) dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses.

Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA Ldn

with open windows and 65-70 dBA Ldn if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. To achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed; those facing major roadways and freeways typically need special glass windows with Sound Transmission Class ratings greater than 30 STC.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The Ldn as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA Ldn. At an Ldn of about 60 dBA, approximately two percent of the population is highly annoyed. When the Ldn increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent (12%) of the population. Therefore, there is an increase in annoyance due to ground vehicle noise of about one percent per dBA between a Ldn of 60-70 dBA. Between a Ldn of 70-80 dBA, each decibel increase increases the percentage of the population highly annoyed by about two percent (2%). People appear to respond more adversely to aircraft noise. When the Ldn due to aircraft noise is 60 dBA, approximately ten percent (10%) of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about two percentage points to the number of people highly annoyed.

Above 70 dBA, each decibel increase in aircraft noise results in about a three percent increase in the percentage of the population highly annoyed.

GROUND-BORNE VIBRATION

Ground-borne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints.

Effects of Ground-borne Vibration

Table 3.11-2 displays the reactions of people and the effects on buildings that continuous vibration levels produce. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those shown, depending on the level of activity or the

sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where Ground-borne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related Ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess Ground- borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

Railroad operations are potential sources of substantial ground vibration depending on distance, the type and the speed of trains, and the type of railroad track. Human response to ground vibration has been correlated best with the RMS velocity level of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is one (1) x 10-6 in/sec RMS, which equals zero (0) VdB, and one (1) in/sec equals 120 VdB. Although not a universally accepted notation, the abbreviation “VdB” is used in this document for vibration levels in decibels to reduce the potential for confusion with airborne sound levels in decibels.

Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans (60 to 70 VdB). Perceptible vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams and foot traffic. Construction activities, train operations, and heavy truck traffic are some of the most common external sources of vibration that can be perceptible inside residences. Table V.3.4 illustrates some common sources of vibration and the association to human perception or the potential for structural damage.

TABLE 3.11-2: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

TABLE 3.11-3: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

HUMAN/STRUCTURAL RESPONSE	VELOCITY LEVEL, VDB	TYPICAL EVENTS (50-FOOT SETBACK)
Threshold, minor cosmetic damage	100	Vibrations unlikely to cause damage of any type
Difficulty with tasks such as reading a video or computer screen	90	Heavy tracked vehicles (Bulldozers, cranes, drill rigs)
Residential annoyance, infrequent events	80	Commuter rail, upper range
Residential annoyance, occasional events	80	Commuter rail, typical bus, or truck over bump or on rough roads
Residential annoyance, frequent events	70	Rapid transit, typical
Approximate human threshold of perception to vibration	60	Buses, trucks, and heavy street traffic
Lower limit for equipment ultra-sensitive to vibration	60	Background vibration in residential settings in the absence of activity

SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, US DEPARTMENT OF TRANSPORTATION FEDERAL TRANSIT ADMINISTRATION, MAY 2006.

EXISTING PHYSICAL SETTING IN THE PROJECT AREA

Traffic Noise Levels

Major roadways are the primary sources of ambient noise in Modesto. State Route 99 (SR 99) runs generally northwest and southeast through the city and State Route 132 (SR 132) generally runs east and west through the city. Primary major local roadways include McHenry Avenue, Oakdale Road, Claus Road, Kiernan Avenue/Claribel Road, Pelandale Avenue, Standiford Avenue, and Briggsmore Avenue. Dale Road, Prescott Road, Carpenter Road, Tully Road, Coffee Road, Orangeburg Avenue, Maze Boulevard, and Yosemite Boulevard are secondary major roadways and contribute to residential noise exposure.

Railroad Noise Levels

Rail operations along the Burlington Northern and Santa Fe Railroad (BNSF), the Modesto & Empire Traction Company (M&ET), and along Union Pacific Railroad (UPRR) rights-of-way also are substantial sources of noise in some areas of the City. Day-night average noise levels vary throughout the community depending on the number of trains operating along a given rail line per day, the timing and duration of train passby events, and whether trains must sound their warning whistles near "at-grade" crossings. Amtrak train schedules are consistent on weekdays and weekends. The number of freight trains passing through Modesto varies daily depending on the specific rail line and local demand. Day- night average noise levels commonly range from 65 to 75 dBA Ldn at land uses adjoining a railroad right-of-way. When railroad trains approach a passenger station or "at-grade" crossing, they are required to sound their warning whistle. When giving a warning to people and/or animals, they are required to produce a succession of sounds with the whistle. Trains are required to sound a long signal followed by a short signal when approaching stations, curves, or other points where view may be obscured, and when approaching passenger or freight trains. When passing a standing train, the moving train is required to sound two long signals followed by a short signal followed by a long signal, the same requirement when signaling for at-grade crossings. Train warning whistles typically generate maximum noise levels of approximately 105 dBA at 100 feet. The day/night average noise level at locations immediately adjacent to "at-grade" crossings and exposed to multiple train passby events during a day can exceed 85 dBA Ldn.

Industrial and Commercial Uses

Industrial operations are the primary stationary noise sources that make a significant local contribution to community noise levels. In general, these stationary noise sources (e.g. fabrication, large mechanical equipment, and loading areas) are often located in primarily commercial and industrial areas and are isolated from noise sensitive land uses. However, sensitive development has encroached on some of these stationary noise sources resulting in some land use conflicts.

Noise sources that affect sensitive receptors within the community would also include commercial land uses or those normally associated with and/or secondary to residential development. These include nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, air conditioning units, swimming pool pumps, school playgrounds, athletic and music events, and public parks.

Construction Activities

Construction is a temporary source of noise for residences and businesses located near construction sites. Construction noise can be significant for short periods of time at any location because of public improvement projects, private development projects, remodeling, etc. The highest construction noise levels are normally generated during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA at 50 feet. Typical hourly average construction- generated noise levels are about 80 to 85 dBA measured at 50 feet from the site during busy construction periods. Some construction techniques, such as impact pile driving, can generate very high levels of noise (105 dBA Lmax at 50 feet) that are difficult to control. Construction activities can elevate noise levels at adjacent businesses and residences by 15 to 20 dBA or more.

Airport

The Modesto City–County Airport is in the southeastern portion of the city. Residential areas are adjacent to the airport to the west and northwest within the City of Modesto and to the south across the Tuolumne River in the City of Ceres. The airport serves general aviation pilots (light and ultralight planes), as well as scheduled daily commercial service. The airport had an annual total of 84,185 operations in 2007 and is forecast to have 141,000 annual operations in the future (Stanislaus County Airport Land Use Compatibility Plans, October 2016). Residences are currently located within the 60 dBA CNEL noise contour of the airport, but not within the 65 dBA CNEL noise contour.

GROUND-BORNE VIBRATION SOURCES IN MODESTO

Railroads

Ground-borne vibration occurs in areas adjacent to fixed rail lines when railroad trains pass through Modesto. Ground vibration levels along the railroad corridors are proportional to the speed and weight of the trains as well as the condition of the tracks and train engine and car wheels. Vibration levels resulting from railroad trains vary by site, but are generally perceptible within 100 feet of the tracks.

Construction

Construction activities such as demolition, site preparation work, excavation, and foundation work can generate Ground-borne vibration at land uses adjoining construction sites. Impact pile driving has the potential of generating the highest ground vibration levels and is of primary concern for structural damage. Other project construction activities, such as caisson drilling, the use of jackhammers, rock drills, and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), can generate substantial vibration levels in the immediate vicinity.

Sensitive Receptors

Sensitive receptors in the City of Modesto include residences, hospitals, parks, churches, and schools. Hospitals in Modesto include Doctors Medical Center, Memorial Medical Center, Modesto Rehabilitation Hospital, English Oaks Convalescent Hospital, Stanislaus Surgery Center, and Stanislaus Behavioral Health Center. The larger parks in Modesto include Davis Park, Thousand Oaks Park, and Legion Park. The high schools in Modesto include Fred C. Beyer, Grace Davis, Thomas Downey, Peter Johansen, Modesto, Robert Elliot Alternative, James C. Enochs, Central Catholic, Modesto Christian, and Joseph A. Gregori. Colleges within the City include Modesto Junior College, which has two campuses, Chapman University, Humphreys College, and Andon College.

NOISE MEASUREMENT SURVEY

A noise measurement survey was completed for the UAGP to establish existing noise levels in the City of Modesto. The survey included 8 long-term (24+ hour) noise measurements and 10 short-term (10 minute) noise measurements. Long-term (LT) measurements, made hour by hour over a period of 24 hours or more, provide information on how noise levels vary throughout the day and night and may vary from day to day. Short-term (ST) measurements are attended, allowing the technician to identify the noise sources occurring during the measurement and note the level of noise associated with these identifiable events.

This assists in quantitatively and qualitatively characterizing the noise environments along the major roadways and in the quieter areas of the City.

Noise measurement locations are shown on Figure 3.11-1. During the noise survey, weather conditions were moderate in terms of temperature and wind. The noise survey was conducted with Larson Davis Laboratories Type 820 precision sound level meters. Instrumentation was calibrated at the beginning of the noise survey and post calibrated at the end of the survey. No calibration corrections were necessary. During the survey, the microphones were fitted with windscreens.

TABLE 3.11-4: SUMMARY OF SHORT-TERM NOISE MEASUREMENT DATA

NOISE MEASUREMENT LOCATION	L_1	L_{10}	L_{50}	L_{90}	*LEQ*	*LDN*	*PRIMARY NOISE SOURCE*
ST-1: 50 feet from the center of Sisk Rd, 300 feet from Kiernan Ave. (3/6/2015, 9:40 am-9:50 pm)	80[2]	67	61	53	68[2]	65	Traffic on Sisk Road and Kiernan Avenue (Firetruck)
ST-2: 70 feet from center of Dale Ave at Fleur De Lis Dr. (3/6/2015, 10:00 am-10:10 am)	74	70	64	52	66	68	Traffic on Dale Avenue
ST-3: 115 feet from the center of Sylvan Ave. (3/6/2015, 10:50 am-11:00 am)	68	63	58	52	60	61	Traffic on Sylvan Avenue
ST-4: Earlmar Dr and Wylma Way. (3/5/2015, 5:40 pm-5:50 pm)	57	51	46	44	48	50	Distant traffic and Recreation
ST-5: 100 feet from center of Briggsmore Ave. (3/6/2015, 11:10 am-11:20 am)	72	69	61	55	65	67	Traffic on Briggsmore Avenue
ST-6: 35 feet from center of Woodland Ave. (3/5/2015, 4:35 pm-4:45 pm)	77	71	62	51	67	70	Traffic on Woodland Avenue
ST-7: 65 feet from Scenic Dr. (3/6/15, 11:30 am-11:40 am)	73	69	63	51	65	67	Traffic on Scenic Drive
ST-8: 50 feet from center of El Vista Ave. (3/6/2015, 12:30 pm-12:40 pm)	76	74	70	63	71	73	Traffic on El Vista Avenue
ST-9: 65 feet from center of Paradise Rd, west of MLK Dr. (3/5/2015, 5:00 pm-5:10 pm)	73	69	66	62	67	69	Traffic on Paradise Road
ST-10: 75 feet from center of Finch Rd, 90 feet from center of McClure Rd. (3/6/2015, 12:10 pm-12:20 pm)	75	71	63	57	66	67	Traffic on Finch Road (Heavy Trucks)

[1] LDN APPROXIMATED BY CORRELATING TO NOISE DATA COLLECTED DURING A CORRESPONDING TIME PERIOD AT A LONG-TERM SITE.

[2] L1 AND LEQ NOISE LEVELS AT ST-1 SITE WERE RAISED DUE TO A FIRETRUCK PASSBY OCCURRING DURING THE MEASUREMENT PERIOD.

Measurement LT-1 was 100 feet south of the center of Pelandale Avenue, west of Prescott Road. The measurement position was representative of setbacks of residential homes along Pelandale Avenue on both sides of the roadway. Vehicular traffic on Pelandale Avenue was the dominant noise source affecting the noise measurement. The measured day/night average noise level at this location was up to 69 dBA Ldn. Typical daytime hourly average noise levels ranged from 65 to 69 dBA Leq and typical nighttime hourly average noise levels ranged from 55 to 64 dBA Leq.

Measurement LT-2 was 110 feet from the center of McHenry Avenue, south of Sylvan Avenue. The measurement was positioned directly across McHenry Avenue from a carwash, with the exit of the carwash facing McHenry Avenue. The dominant source of noise was vehicular traffic on McHenry Avenue with the car wash as a substantial contributor. The measured day / night noise level at this location ranged

from 70 to 72 dBA Ldn, with an Ldn of 70 dBA attributable to traffic noise along McHenry Avenue. Typical daytime Leq noise levels ranged from 64 to 71 dBA and typical nighttime Leq noise levels ranged from 57 to 62 dBA.

Noise measurement LT-3 was approximately 130 feet southwest of the center of SR 99 and 105 feet north of Kansas Avenue. The measurement position was about 25 feet above the surface of SR 99 and about 11 feet above ground-level relative to the base elevation of Kansas Avenue. Vehicular traffic along SR 99 was the major source of noise at this location. The day/night average noise level was measured to be up to 82 dBA Ldn. Typical daytime Leq noise levels ranged from 74 to 81 dBA and typical nighttime Leq noise levels ranged from 72 to 77 dBA.

Measurement location LT-4 was 30 feet from the centerline of 8th Street, 175 feet northwest of G Street, 60 feet from the center of UPRR railroad tracks, and 110 feet from feed store equipment. Train passbys along the UPRR tracks were the major sources of noise at this location and typically generated maximum instantaneous noise levels in the range of 105 to 112 dBA Lmax. Approximately 20 trains passed by the site on each measurement day during daytime and nighttime hours. The day/night average noise level at this site was measured to be from 87 to 89 dBA Ldn, depending on the frequency of the train passbys. Hourly average Leq noise levels ranged from 77 to 87 dBA during hours with train passby events and were as low as 56 to 67 Leq dBA during periods without train passbys.

Noise measurement LT-5 was approximately 30 feet south of the center of the M&ET rail line and 20 feet west of the center of Santa Ana Avenue. Approximately eight to ten train passby events occurred each day including overnight and early morning trains between the hours of 11:00 pm and 10:00 am and evening trains between the hours of 2:00 pm and 6:00 pm. Train passby events resulted in hourly average noise levels in the range of 78 to 85 dBA Leq with maximum noise levels typically in the range of 109 to 114 dBA Lmax. During periods without train passby events, vehicular traffic along Center Avenue was the predominant source of noise at this location, generating hourly average noise levels in the range of 50 to 60 dBA Leq. The day/night average noise level was measured to be 85 to 87 dBA Ldn, depending on the number and timing of train passby events.

Measurement LT-6 was approximately 25 feet from the center of the nearest train tracks running along E Street at 1st Street. Maximum noise levels generated during train passby events were typically in the range of 100 to 115 dBA Lmax. Approximately 20 to 22 train passby events occurred each day during daytime and nighttime hours. Daytime Leq noise levels ranged from 61 to 86 dBA, with the lower noise levels occurring during intervals without train passby events. Nighttime Leq noise levels were as low as 52 dBA during intervals without train passby events. The day/night average noise level at this location ranged from 86 to 88 dBA Ldn.

Noise measurement LT-7 was approximately 190 feet north of the center of Maze Boulevard (SR 132) along the neighborhood road of Meadow Lane, east of Carpenter Road. Vehicular traffic along Maze Boulevard and local residential streets were the major sources of noise at this location. Typical daytime Leq noise levels ranged from 57 to 68 dBA and typical nighttime Leq noise levels ranged from 52 to 62 dBA. The day/night average noise level was measured to be from 65 to 66 dBA Ldn.

Noise measurement LT-8 was approximately 55 feet north of Hatch Road and 105 feet west of the center of Crows Landing Road. The measurement position located approximately 12 feet above ground, at the setback of adjacent commercial buildings. Vehicular traffic on the roadways was the dominant noise source affecting the noise measurement. Typical daytime Leq noise levels ranged from 69 to 75 dBA and typical nighttime Leq noise levels ranged from 60 to 69 dBA. The measured day/night average noise level at this location was 74 dBA Ldn.

3.11.2 REGULATORY SETTING

FEDERAL

Federal Railroad Administration (FRA)

The FRA established the Train Horn Rule and Quiet Zones. Under the Train Horn Rule (49 CFR Part 222), locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings. If a train is traveling faster than 60 mph, engineers will not sound the horn until it is within ¼ mile of the crossing, even if the advance warning is less than 15 seconds. There is a "good faith" exception for locations where engineers cannot precisely estimate their arrival at a crossing and begin to sound the horn no more than 25 seconds before arriving at the crossing. Train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. The maximum volume level for the train horn is 110 decibels which is a new requirement. The minimum sound level remains 96 decibels.

Federal Highway Administration (FHWA)

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

Environmental Protection Agency (EPA)

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA Ldn or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.
- Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. However, HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. Except for construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

STATE

California Department of Transportation (Caltrans)

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

Caltrans recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 0.25 to 0.30 in/sec PPV has been used for older buildings that are found to be structurally sound but cosmetic damage to plaster ceilings or walls is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a

conservative limit of 0.08 in/sec PPV is often used to provide the highest level of protection. All these limits have been used successfully and compliance to these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and consider the response of structural elements (i.e. walls, floors) to ground-borne excitation.

Governor's Office of Planning and Research (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2003). The guidelines include land use compatibility guidelines for noise exposure.

California Government Code Section 65302(f)

California Government Code Section 65302(f) requires that all General Plans include a Noise Element to address noise problems in the community. The Noise Element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all the following sources:

- Highways and freeways.
- Primary arterials and major local streets.
- Passenger and freight on-line railroad operations and ground rapid transit systems. Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine tests stand, and all other ground facilities and maintenance functions related to airport operation.
- Local industrial plants, including, but not limited to, railroad classification yards.
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment.

Noise contours shall be shown for all these sources and stated in terms of CNEL or Ldn. The noise contours shall be prepared based on noise monitoring or following generally accepted noise modeling techniques for the various sources identified above.

The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise. The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

Division of Aeronautic Noise Standards

Title 21 of the California Code of Regulations[1] sets forth the State's airport noise standards. In the findings described in Section 5006, the standard states the following: "A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dB for purposes of these

[1] California Code of Regulations Airport Noise Standards, Title 21, Public Works Division 2.5, Division of Aeronautics (Department of Transportation), Chapter 6 Noise Standards, Article 1. General.

regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction." Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dBA.

LOCAL

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as Noise-*X,* where *X* is the discrete number).

City of Modesto General Plan

Noise-1: Construction activities are to comply with Modesto Municipal Code Title 4, Chapter 9.

Noise-2 Implement noise-reducing construction practices as conditions of approval where substantial construction-related noise impacts would be likely to occur, such as with extended periods of pile driving, or where construction is expected to continue or where sensitive receptors would be affected by construction noise. Conditions of approval may include, but are not limited to:

- Require construction equipment, including air compressors and pneumatic equipment to have properly maintained mufflers;
- Require impact tools to be equipped with shrouds or shields;
- Require that the quietest equipment available be used; and,
- Require selection of haul routes that affect the fewest number of people. (UAGP Policy VII-G.3.b)

Noise-3: Implement techniques, where feasible, to reduce noise impacts from new or widened roadways. Such techniques may include, but are not limited to:

- Traffic calming to reduce vehicle speeds, including narrowing travel lanes and limiting the number of motor vehicle lanes;
- Adding bicycle and parking lanes to move the noise source farther away from sensitive receptors; and,
- Use of earthen berms and landscaped walls to channel noise away from sensitive receptors. (UAGP Policy VII-G.3.c)

Noise-4: Use the most recent noise contour map (Figure VII-2) to implement the requirements of Noise Insulation Standards contained in Title 24 of the California Code of Regulations. Developers may be allowed to demonstrate that detailed noise studies and / or mitigation are not necessary due to local conditions, changes in the expected future noise environment, or inapplicable assumptions made in the Program EIR. (UAGP Policy VII-G.3.d)

Noise-5: Incorporate construction practices and acoustic treatment in new residential construction to reduce typical indoor noise levels to 45 dB. Developers of residential buildings within the 65 dBA contours shown in the General Plan Program EIR shall demonstrate that interior noise has been reduced to 45 dB. Other types of development should be protected against noise intrusion at least to the levels indicated on UAGP Table VII-2. (UAGP Policy VII-G.3.e)

Noise-6: For proposed non-transportation noise sources, reduce noise levels so as not to exceed the allowable noise exposure thresholds specified in Table V.3.8, below, at the property line of residential or other noise-sensitive land uses. (UAGP Policy VII-G.3.f)

TABLE V.3.8: NOISE EXPOSURE THRESHOLDS – NON-TRANSPORTATION NOISE SOURCES

	CITYWIDE, EXCLUDING DOWNTOWN		DOWNTOWN	
	DAYTIME (7:00AM - 10:00PM)	NIGHTTIME (10:00PM - 7:00AM)	DAYTIME (7:00AM - 10:00PM)	NIGHTTIME (10:00PM - 7:00AM)
Hourly L_{eq}, dBA	55	45	60	50
Maximum level, dBA	75	65	80	70

NOTES: [1] EACH OF THE NOISE LEVEL STANDARDS SHALL BE REDUCED BY FIVE (5) DBA FOR PURE TONE NOISES, NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC, OR FOR RECURRING IMPULSIVE NOISES. WHERE MEASURED AMBIENT NOISE LEVELS EXCEED THE STANDARDS, THE STANDARDS SHALL BE INCREASED TO THE AMBIENT LEVELS.

[2] IF THE EXISTING AMBIENT NOISE LEVEL AT THE RECEIVING USE EXCEEDS THE THRESHOLDS GIVEN IN TABLE V.3.9, THEN THE NOISE LEVEL STANDARDS SHALL BE INCREASED TO ACCOUNT FOR THE AMBIENT NOISE LEVEL.

Noise-7: At noise-sensitive land uses, increases in noise should not exceed 3 dBA where any other noise threshold or standard would be exceeded, and/or 5 dBA where noise levels would otherwise fall within acceptable limits, for the existing conditions scenario as compared to the buildout scenario. (UAGP Policy VII-G.3.g).

Noise-8: Additional study and/or mitigation for outdoor recreation areas will be required if:

- For single-family dwellings, noise exceeds 65 dBA Ldn in one or more backyards;
- For multi-family dwellings, noise exceeds 65 dBA Ldn at common recreation areas, such as swimming pools or play areas or at private patios and balconies; or,
- For other uses, noise exceeds the level considered "conditionally acceptable" as shown on Table VII-2 of the General Plan. (UAGP Policy VII-G.3.h)

Noise-9: Limit trucking to specific routes, times, and speeds that avoid or minimize adverse effects on sensitive receptors. (UAGP Policy VII-G.3.i)

Noise-10: Airport and aircraft noise analysis will be conducted in accordance with the Modesto City–County Airport's Master Plan and Federal Aviation Regulation (FAR Part 150). New construction must meet Modesto's noise compatibility standards. As airport operations increase, mitigation will be provided to existing residential and other sensitive uses, either through operations or direct property improvements, in order to meet Title 14 Code of Federal Regulations Part 150 land use compatibility guidelines. (UAGP Policy VII-G.3.j)

Noise-11: Study, analyze and consider establishment of "Quiet Zones" along the rail corridors through downtown, along Yosemite Boulevard and along the east side of the planning area. (UAGP Policy VII-G.3.k)

Noise-12: For new residential development proposed in areas within 200 feet of the center of the near mainline of active rail lines where single-event noise from trains is of concern, demonstrate that the proposed development will incorporate measures to reduce maximum noise levels generated during train passbys to 50 dBA Lmax or less inside bedrooms and to 55 dBA Lmax or less inside other noise sensitive occupied areas. (UAGP Policy VII-G.3.l)

Noise-13: For new residential and vibration sensitive commercial development (including but not limited to lodging facilities, hospitals and similar uses) located within 200 feet of the center of the near mainline of active rail lines, demonstrate that the proposed development will incorporate measures to reduce vibration levels generated during train passby events to meet the FTA vibration criteria as shown in Program EIR Table V-3-6. (UAGP Policy VII-G.3.m)

Noise-14: For construction activities involving high-powered vibratory tools or pile driving within 200 feet of an existing structure, demonstrate that project construction would not exceed the Caltrans construction vibration thresholds to ensure that no damage to structures would occur. (UAGP Policy VII-G.3.n)

City of Modesto Municipal Code Noise Ordinance

Generally, the Modesto Municipal Code prohibits any noise that can be deemed "loud and raucous." Determining what noises are "loud and raucous" depends on several factors, such as its volume and duration, whether the nature of the noise is usual or unusual, when the noise occurs, and whether it is recurrent, intermittent, or constant. The Municipal Code prohibits "loud and raucous" construction-related noise before 7:00 am or after 9:00 pm daily. It also forbids the loud and raucous operation of many specific types of construction equipment. For example, it prohibits loud and raucous noise from exhaust of any stationary internal combustion engine.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- 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;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: The Project would generate exposure to significant traffic noise sources (Significant and Unavoidable)

The primary noise sources in the City of Modesto include ground transportation noise sources, such as roadway traffic and trains, and local stationary noise sources, such as equipment used for industrial operations and aircraft noise. Residential developments, schools, libraries, hospitals, convalescent homes, and places of worship are the land uses that are the most noise-sensitive because of the quiet nature of the use.

Development facilitated by the UAGP would result in increased traffic volumes along roadways throughout Modesto. A significant noise impact would be identified where existing noise-sensitive land uses would be subject to permanent noise level increases of 3 dBA Ldn or more where noise levels would equal or exceed the acceptable level (65 dBA Ldn for residential uses) or 5 dBA Ldn or more where noise levels would remain at or below the acceptable level.

The future noise exposure levels in the UAGP were calculated using the existing measured noise levels adjusted upward to account for increased traffic on the roadways due to cumulative development including the build out of the Project, and by modeling noise levels along new roadway segments using the FHWA Traffic Noise Model (TNM) algorithms.

Implementation of the proposed General Plan would result in the introduction of additional development, roadways, and a truck route, as described in Chapter 2.0, that would result in additional traffic and associated traffic noise.

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop Ldn (24-hour average) noise contours for all highways and major roadways in the General Plan study area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period. It should be noted that the newer FHWA traffic noise model (TNM 3.0) is required for use on federally funded highway projects. However, the FHWA RD-77-108 model is still widely used in the industry for planning-level projects involving many roadway segments. The model typically results in slight over-predictions in traffic noise levels at typical receptor setback distances and is therefore considered to result in conservative traffic noise level predictions.

Traffic and heavy truck volumes were obtained from the traffic engineer (Iteris, 2024). Day/night traffic distributions were based upon continuous hourly noise measurement data. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.11-5 shows the results of this analysis.

TABLE 3.11-5: PREDICTED TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES (DB)

ROADWAY	*SEGMENT*	*EXISTING NO PROJECT*	*EXISTING + PROJECT*	*CHANGE*
7th Street	Paradise Rd to Crows Landing Rd	50.1	50.6	0.5
9th Street	Carpenter Rd to Woodland Ave	67.4	67.6	0.2
9th Street	D St to River Rd	67.2	67.4	0.2
9th Street	L St to D St	54.2	54.5	0.1
9th Street	Needham St to L St	67.1	67.3	0.2
9th Street	South of River Rd	60.6	60.9	0.3
9th Street	Woodland Ave to Needham St	70.7	70.8	0.1
Briggsmore Avenue	Carver Rd to Tully Rd	69.8	70.0	0.2
Briggsmore Avenue	Coffee Rd to Oakdale Rd	65.3	65.5	0.3
Briggsmore Avenue	McHenry Ave to Coffee Rd	64.9	65.1	0.2
Briggsmore Avenue	Oakdale Rd to Roselle Ave	66.0	66.3	0.3
Briggsmore Avenue	Prescott Rd to Carver Rd	69.3	69.5	0.2
Briggsmore Avenue	Roselle Rd to Claus Rd	62.4	63.0	0.6
Briggsmore Avenue	Sisk Rd to Prescott Rd	65.4	65.6	0.2
Briggsmore Avenue	Tully Rd to McHenry Ave	63.5	63.7	0.2
Carpenter Road	SR 99 to Kansas Ave	61.8	62.2	0.3
Carpenter Road	Kansas Ave to Maze Blvd	61.3	62.2	0.9
Carpenter Road	Maze Blvd to Paradise Rd	59.9	60.6	0.7
Carpenter Road	South of Paradise Rd	57.2	57.7	0.5
Carver Road	Briggsmore Ave to Orangeburg Ave	48.5	48.5	0.0
Carver Road	South of Orangeburg Ave	50.2	50.4	0.2
Claratina Avenue	Tully Rd to McHenry Ave	60.5	60.8	0.3
Claratina Avenue	McHenry Ave to Coffee Rd	63.9	64.4	0.5
Claratina Avenue	Coffee Rd to Oakdale Rd	69.3	69.7	0.4
Claratina Avenue	Oakdale Rd to Roselle Ave (New Alignment)	34.4	37.3	2.9
Claribel Road	Coffee Rd to Oakdale Rd	47.6	48.0	0.4
Claribel Road	McHenry Ave to Coffee Rd	52.9	53.5	0.6
Claribel Road	Oakdale Rd to Roselle Ave	49.9	50.4	0.5
Claribel Road	Roselle Ave to Claus Rd	54.3	54.8	0.5
Claribel Road	East of Coffee Road (New Alignment)	60.5	61.0	0.5
Claus Rd	Briggsmore Ave to Orangeburg Ave	62.0	62.2	0.2
Claus Rd	Creekwood Dr to Yosemite Blvd	65.1	65.4	0.3

ROADWAY	*SEGMENT*	*EXISTING NO PROJECT*	*EXISTING + PROJECT*	*CHANGE*
Claus Rd	Floyd Ave to Orangeburg Ave	71.2	71.3	0.1
Claus Rd	North of Sylvan Ave	64.9	65.0	0.1
Claus Rd	Scenic Dr to Creekwood Dr	62.9	63.2	0.3
Claus Rd	South of Orangeburg Ave	71.6	71.8	0.2
Claus Rd	South of Yosemite Blvd	68.0	68.1	0.1
Claus Rd	Sylvan Ave to Floyd Ave	55.8	56.0	0.2
Coffee Road	Briggsmore Ave to Orangeburg Ave	59.9	60.2	0.3
Coffee Road	Claratina Ave to Sylvan Ave	60.7	61.1	0.4
Coffee Road	Floyd Ave to Briggsmore Ave	67.0	67.3	0.3
Coffee Road	South of Orangeburg Ave	63.7	64.0	0.3
Coffee Road	Sylvan Ave to Floyd Ave	60.0	60.3	0.3
College Avenue	Briggsmore Ave to Orangeburg Ave	51.9	52.2	0.3
College Avenue	North of Briggsmore Ave	46.3	46.5	0.3
College Avenue	South of Orangeburg Ave	55.5	55.9	0.4
Creekwood Drive	Claus Rd to Yosemite Blvd	51.7	52.0	0.3
Dale Road	Kiernan Ave to Pelandale Ave	60.4	61.0	0.6
Dale Road	Pelandale Ave to Standiford Ave	71.5	71.7	0.2
Downey Avenue	McHenry Ave to Scenic Dr	54.0	54.3	0.3
El Vista Avenue	Scenic Dr to Yosemite Blvd	68.2	68.3	0.1
Floyd Avenue	Coffee Rd to Oakdale Rd	52.4	52.7	0.3
Floyd Avenue	McHenry Ave to Coffee Rd	56.6	56.8	0.2
Floyd Avenue	Oakdale Rd to Roselle Rd	53.7	53.8	0.1
Floyd Avenue	Roselle Rd to Claus Rd	54.6	55.0	0.4
SR 99	North of Briggsmore Ave	65.3	65.4	0.1
SR 99	North of Kiernan Ave	64.7	64.9	0.2
SR 99	Pelandale Ave to Standiford Ave	67.2	67.3	0.1
SR 99	South of Standiford Ave	68.5	68.6	0.1
SR 99	Briggsmore Ave to Kansas Ave	67.0	67.2	0.2
SR 99	Kansas Ave to Maze Blvd	73.8	73.9	0.1
SR 99	Maze Blvd to Paradise Rd	67.7	67.8	0.1
SR 99	Paradise Rd to Crows Landing Rd	72.5	72.6	0.1
SR 99	South of Crows Landing Rd	64.7	64.8	0.1
Kansas Avenue	Carpenter Rd to Emerald Ave	54.6	54.7	0.1
Kansas Avenue	Emerald Ave to Needham	60.1	60.3	0.2

ROADWAY	*SEGMENT*	*EXISTING NO PROJECT*	*EXISTING + PROJECT*	*CHANGE*
Kansas Avenue	West of Carpenter Rd	51.8	52.3	0.5
Kansas Avenue	N. Dakota Rd to Morse Ave	36.3	36.3	0.0
Kiernan Avenue	SR 99 to Tully Rd	55.3	55.4	0.1
Kiernan Avenue	Tully Rd to McHenry Ave	51.9	52.5	0.6
La Loma Avenue	Scenic Dr to Yosemite Blvd	54.8	55.1	0.3
Maze Boulevard	West of Carpenter Rd	46.3	47.5	1.2
Maze Boulevard	Carpenter Rd to Emerald Ave	47.2	48.0	0.8
Maze Boulevard	Emerald Ave to Needham St	57.3	58.3	1.0
Mc Henry Avenue	Briggsmore Ave to Orangeburg Ave	55.2	55.4	0.2
Mc Henry Avenue	Kiernan Ave to Pelandale Ave	62.3	62.4	0.1
Mc Henry Avenue	Pelandale Ave to Standiford Ave	60.5	60.7	0.2
Mc Henry Avenue	South of Orangeburg Ave	52.8	53.0	0.2
Mc Henry Avenue	Standiford Ave to Briggsmore Ave	60.3	60.5	0.2
Mitchell Road	South of Yosemite Blvd	59.8	60.0	0.2
Needham Street	Kansas Ave to McHenry Ave	57.8	58.1	0.3
Oakdale Road	Briggsmore Ave to Orangeburg Ave	63.9	64.1	0.2
Oakdale Road	Claratina Ave to Sylvan Ave	62.7	63.2	0.5
Oakdale Road	Floyd Ave to Briggsmore Ave	58.7	59.1	0.4
Oakdale Road	South of Orangeburg Ave	67.9	68.0	0.1
Oakdale Road	Sylvan Ave to Floyd Ave	59.7	60.2	0.5
Orangeburg Avenue	Briggsmore Ave to Carver Rd	52.8	53.1	0.3
Orangeburg Avenue	Carver Rd to Tully Rd	51.6	52.0	0.4
Orangeburg Avenue	Coffee Rd to Oakdale Rd	50.1	50.4	0.3
Orangeburg Avenue	Coffee Rd to Rose Ave	49.2	49.2	0.0
Orangeburg Avenue	Downey Ave to Coffee Rd	0	0	0
Orangeburg Avenue	College Rd to McHenry Ave	53.8	54.2	0.4
Orangeburg Avenue	East of Lakewood Ave	47.2	47.4	0.2
Orangeburg Avenue	Lakewood Ave to Claus Rd	46.5	46.7	0.2
Orangeburg Avenue	McHenry Ave to Coffee Rd	52.5	52.8	0.3
Orangeburg Avenue	Oakdale Rd to Lakewood Ave	47.5	47.7	0.2
Orangeburg Avenue	Oakdale Rd to Sonoma Ave	50.3	50.4	0.1
Orangeburg Avenue	Rose Ave to Oakdale Rd	49.1	49.3	0.2
Orangeburg Avenue	Sonoma Ave to Lakewood Ave	53.7	53.9	0.2
Paradise Road	Beverly Dr to MLK Dr	62.9	63.5	0.6

ROADWAY	*SEGMENT*	*EXISTING NO PROJECT*	*EXISTING + PROJECT*	*CHANGE*
Paradise Road	Carpenter Rd to Beverly Dr	58.8	59.4	0.6
Paradise Road	MLK Dr to SR 99	57.7	58.5	0.8
Paradise Road	West of Carpenter Rd	44.9	46.3	1.4
Pelandale Avenue	Carver Rd to Tully Ave	63.2	63.5	0.2
Pelandale Avenue	Dale Rd to Prescott Rd	62.1	62.4	0.3
Pelandale Avenue	SR 99 to Sisk Rd	65.4	65.6	0.2
Pelandale Avenue	Prescott Rd to Carver Rd	63.8	64.1	0.3
Pelandale Avenue	Sisk Rd to Dale Rd	61.4	61.7	0.3
Prescott Road	North of Pelandale Ave	45.4	45.5	0.1
Prescott Road	Pelandale Ave to Standiford Ave	54.4	54.7	0.3
Prescott Road	Standiford Ave to Briggsmore Ave	61.9	62.1	0.2
Roselle Road	North of Sylvan Ave	66.3	66.8	0.5
Roselle Road	Roselle Rd, Sylvan Ave to Floyd Ave	67.5	68.0	0.5
Roselle Road	Briggsmore Ave to Orangeburg Ave	64.3	64.7	0.4
Roselle Road	Floyd Ave to Briggsmore Ave	64.5	64.9	0.4
Roselle Road	South of Orangeburg Ave	58.8	59.4	0.6
Sisk Road	Kiernan Ave to Pelandale Ave	65.8	65.9	0.1
Sisk Road	Sisk Rd, north of Standiford Ave	70.1	70.4	0.3
Sisk Road	Pelandale Ave to Standiford Ave	58.9	59.1	0.2
Sisk Road	Standiford Ave to Briggsmore Ave	72.7	73.0	0.3
Standiford Avene	Carver Rd to Tully Rd	62.7	62.9	0.2
Standiford Avene	Dale Rd to Prescott Rd	62.2	62.4	0.2
Standiford Avene	Prescott Rd to Carver Rd	67.6	67.9	0.3
Standiford Avene	Tully Rd to McHenry Ave	60.6	60.9	0.3
Sylvan Avenue	Coffee Rd to Oakdale Rd	61.5	62.0	0.5
Sylvan Avenue	McHenry Ave to Coffee Rd	63.4	63.8	0.4
Sylvan Avenue	Oakdale Rd to Roselle Rd	63.4	64.1	0.7
Sylvan Avenue	Roselle Rd to Claus Rd	56.0	56.6	0.6
Tuolumne Boulevard	Paradise Rd to Roselawn Ave	60.4	61.3	0.9
Tuolumne Boulevard	Roselawn Ave to SR 99	60.6	61.4	0.8
Tully Road	Kiernan Ave to Pelandale Ave	60.3	60.8	0.5
Tully Road	Pelandale Ave to Standiford Ave	64.1	64.5	0.4
Tully Road	Standiford Ave to Briggsmore Ave	60.9	61.2	0.3
Yosemite Boulevard	9th St to Santa Rosa Ave	64.6	65.1	0.7

ROADWAY	*SEGMENT*	*EXISTING NO PROJECT*	*EXISTING + PROJECT*	*CHANGE*
Yosemite Boulevard	East of Claus Rd	68.7	68.9	0.2
Yosemite Boulevard	Empire Ave to Mitchell Rd	66.7	67.0	0.3
Yosemite Boulevard	Lincoln to Claus Rd	65.6	66.0	0.4
Yosemite Boulevard	Mitchell Rd to Riverside Dr	66.4	66.6	0.2
Yosemite Boulevard	Riverside Dr to Lincoln Ave	62.6	62.9	0.3
Yosemite Boulevard	Santa Rosa Ave to Empire Ave	61.6	62.0	0.4

[1] *SOURCE: FHWA-RD-77-108 WITH INPUTS FROM ITERIS AND SAXELBY ACOUSTICS, 2024.*

As shown in Table 3.11-5, above, Existing and Buildout noise levels along many roadways in the City of Modesto are calculated to exceed those considered compatible for noise-sensitive land uses (65 dBA Ldn for single family residential uses). As such, noise levels at the locations of proposed residential developments and other noise-sensitive land uses allowed for under the Project would exceed the City's noise thresholds of acceptability. Site planning alternatives and noise barriers may be necessary and should be considered during a project's design phase to reduce exterior noise levels to acceptable levels. Where exterior transportation noise levels would exceed 60 dBA L_{dn} in new residential development, interior levels may exceed 45 dBA L_{dn} assuming that windows and doors are open for ventilation. Interior noise levels within residential units are 20 to 25 decibels lower than exterior noise levels with the windows closed, assuming typical California Building Code construction methods.

Where exterior noise levels are 60 to 70 dBA L_{dn}, interior noise levels can typically be maintained below 45 dBA L_{dn} with the incorporation of an adequate forced-air mechanical ventilation system in the residential units to allow residents the option of controlling noise by keeping the windows closed. In areas exceeding 70 dBA L_{dn}, the inclusion of windows and doors with high Sound Transmission Class (STC) ratings, and the incorporation of forced-air mechanical ventilation systems, may be necessary to meet 45 dBA L_{dn}.

The applicable UAGP policies, listed below, would assist in reducing traffic noise of future individual projects. However, such impacts could remain significant and unavoidable if the project-specific circumstances render application of mitigating policies infeasible. Therefore, the Project would have a ***significant and unavoidable*** impact relative to traffic noise.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a less than significant impact. The increased density would concentrate more people and activities in the planning area, which would increase noise levels. The UAGP includes policies and actions to ensure that acceptable noise levels are maintained regardless of land use or density levels. As new development occurs at a higher density, project specific analysis will be required to evaluate the project relative to the noise standards. Projects will be required to incorporate

noise attenuation design to ensure compliance with the City's noise standards. However, this impact is considered to remain ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to noise and land use compatibility: Noise-2 through Noise-9. In addition, the City will comply with requirements of its Noise Ordinance. These policies and ordinances address noise associated with traffic noise.

Impact 3.11-2: The Project would result in exposure to excessive railroad noise sources (Significant and Unavoidable)

The City of Modesto is served by three railroads: Burlington Northern and Santa Fe Railroad (BNSF), the Modesto & Empire Traction Company (M&ET), and along Union Pacific Railroad (UPRR). Data regarding daily rail operations is not available, as operations fluctuate as demand for rail services varies. Further, the City has no control over the schedule of rail operations or amount of rail activities that occur within the City. The BNSF Railroad runs adjacent and parallel to Santa Fe Avenue on the eastern edge of Modesto; the UPRR runs adjacent and parallel to 9th Street, Brink Avenue, and SR 99 on the western edge of Modesto; and the M&ET runs primarily in the Beard Industrial District along Yosemite Boulevard on the southern edge of Modesto. Existing residences are located along portions of all these rail lines and the UAGP could facilitate the development of additional noise sensitive uses adjacent to these rail lines.

Future railroad train noises from operations on these tracks were assumed to be like existing conditions. Day-night average noise levels vary throughout the community depending on the number of trains operating along a given line per day, the timing and duration of train passby events, and whether trains must sound their warning whistles. Based on the noise monitoring survey, train operations generated a noise level of up to 88 dBA L_{dn} at 75 feet from the center of the UPRR main line running along 8th Street, up to 79 dBA L_{dn} at 75 feet from the center of the M&ET line running along Yosemite Boulevard, and up to 82 dBA L_{dn} at 75 feet from the center of the BNSF tracks running along Santa Fe Avenue. Maximum instantaneous noise levels (L_{max}) from train warning whistles typically ranged from approximately 90 to 110 dBA L_{max} at 75 feet from the tracks.

The UAGP includes policies and actions that are intended to minimize exposure to excessive noise, including noise associated with railroad operations. Implementation of these UAGP policies and actions would ensure that development allowed under the UAGP is not exposed to noise levels associated with railroad operations more than the City's established standards. However, such impacts could remain significant and unavoidable if the project-specific circumstances render application of mitigating policies infeasible. Therefore, the Project would have a ***significant and unavoidable*** impact relative to traffic noise.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of railroad noise that was originally anticipated in the UAGP planning area. In effect, the density change

would not cause any direct physical changes related to railroad noise. However, this impact is considered to remain ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to noise and land use compatibility: Noise-11 through Noise-13. In addition, the City will comply with requirements of its Noise Ordinance. These policies and ordinances address noise associated with rail noise, in addition to other noise sources.

Impact 3.11-3: The Project would result in the generation of excessive stationary noise sources (Significant and Unavoidable)

Mixed-use development projects often include residential uses located above or in proximity to commercial uses, and in areas served by bus transit along major roadways. Noise sources associated with commercial uses could include mechanical equipment operations, public address systems, parking lot noise (e.g., opening and closing of vehicle doors, people talking, car alarms), delivery activities (e.g., use of forklifts, hydraulic lifts), trash compactors, and air compressors. These elevated noise levels, which have the potential to be generated by commercial uses within mixed-use developments, would expose nearby noise-sensitive land uses to noise levels that exceed the City's noise standards.

Placement of residential uses within proximity to industrial uses would also have the potential to expose residents to increased noise levels in exceedance of City noise standards. Conversely, the industrial uses could be subject to new noise standards to ensure noise level compatibility with nearby residential and mixed-use neighborhoods. Industrial uses could be subject to new limitations for noise intensive activities to keep noise levels at nearby residential and mixed-use neighborhoods within City noise level standards. The UAGP includes policies and actions that are intended to reduce noise associated with stationary sources (listed below). However, such impacts could remain significant and unavoidable if the project-specific circumstances render application of mitigating policies infeasible. Therefore, the Project would have a ***significant and unavoidable*** impact relative to stationary noise sources.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of stationary noise that was originally anticipated in the UAGP planning area, which predominately is associated with non-residential uses. However, regardless of the type of land use, new development would still be required to comply with the noise and land use compatibility policies as established by the UAGP. However, this impact is considered to remain ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to noise and land use compatibility: Noise-1 through Noise-14. In addition, the City will comply with requirements of its Noise Ordinance. These policies and ordinances address noise associated with stationary noise, in addition to other noise sources.

Impact 3.11-4: The Project would result in an increase in construction noise sources (Significant and Unavoidable)

New development, maintenance of roadways, and installation of public utilities and infrastructure generally require construction activities. These activities include the use of heavy equipment and impact tools. Table 3.11-6 provides a list of the types of equipment which may be associated with construction activities, and their associated noise levels.

TABLE 3.11-6: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, LMAX DB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 DB LMAX CONTOUR	65 DB LMAX CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

Construction activities would occur as new development occurs. Activities involved in construction would typically generate maximum noise levels ranging from 85 to 90 dB at 50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance. However, construction noise would be temporary, intermittent, and would vary depending on the nature of the construction activities being performed. Buildout of the UAGP would also occur over a period of many years. The UAGP includes policies and actions that are intended to reduce noise associated with construction noise (listed below). The applicable UAGP policies, would assist in reducing noise and vibration levels during construction of future individual projects. These policies would serve to reduce noise levels resulting from construction activities and to reduce interior residential noise levels. These policies would minimize both direct impacts. However, such impacts could remain significant and unavoidable if the project-specific circumstances render application of mitigating policies infeasible. Therefore, the Project would have a ***significant and unavoidable*** impact relative to construction noise.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be developed. The density changes have similar construction levels, although the construction would be of higher density residential products. The UAGP includes policies and actions to ensure that acceptable construction noise levels are maintained regardless of land

use or density levels. As new development occurs at a higher density, project specific analysis will be required to evaluate the project relative to the noise standards. Projects will be required to incorporate measures to ensure compliance with the City's standards. However, this impact is considered to remain ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to noise and land use compatibility: Noise-1, -2, and -14. In addition, the City will comply with requirements of its Noise Ordinance. These policies and ordinances address noise associated with short-term construction noise, in addition to other noise sources.

Impact 3.11-5: The Project would result in construction vibration (Significant and Unavoidable)

Construction activities facilitated by the UAGP may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels may also occur on some project sites and vibratory pile driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

Heavy tracked vehicles (e.g., bulldozers or excavators) can generate distinctly perceptible groundborne vibration levels when this equipment operates within approximately 25 feet of sensitive land uses. Impact pile drivers can generate distinctly perceptible groundborne vibration levels at distances up to about 100 feet, and may exceed building damage thresholds within 25 feet of any building, and within 50-100 feet of a historical building, or building in poor condition. Other construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may also potentially generate substantial vibration in the immediate vicinity.

Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels may be high enough to damage existing structures. Given the scope of the UAGP and the proximity of many existing structures, groundborne vibration impacts would be potentially significant.

As with any type of construction, vibration levels may at times be perceptible. However, construction phases that have the highest potential of producing vibration (pile driving and use of jackhammers and other high-power tools) would be intermittent and would only occur for short periods of time for any individual project site.

The applicable UAGP policies, below, would assist in reducing vibration levels during construction of future individual projects. Specifically, Noise-13 and Noise-14 would reduce potential impacts from sources of vibration. These policies would minimize both direct and cumulative impacts. However, such impacts could remain significant and unavoidable if the project-specific circumstances render application of mitigating policies infeasible. Therefore, the Project would have a ***significant and unavoidable*** impact relative to traffic noise.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be developed. The increased density would concentrate more people and activities in the planning area, but this would not change construction vibration levels. The UAGP includes policies and actions to ensure that acceptable vibration levels are maintained regardless of land use or density levels. As new development occurs at a higher density, project specific analysis will be required to evaluate the project relative to the vibration standards. Projects will be required to incorporate measures to ensure compliance with the City's standards. However, this impact is considered to remain ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following policies related to vibration: Noise-13 and Noise-14. In addition, the City will comply with requirements of its Noise Ordinance. These policies address vibration, in addition to other noise sources.

Impact 3.11-6: The Project would result in exposure to groundborne vibration (Significant and Unavoidable)

Railroad trains are a source of Ground-borne vibration when receptors are located close to the tracks. Many factors influence levels of Ground-borne vibration from trains experienced in buildings, including operational factors, geology, building construction, train speed, and track type. The U.S. DOT FTA has developed vibration impact assessment criteria for evaluation vibration impacts associated with rapid transit projects[2].

There are three existing rail lines in Modesto: the BNSF located adjacent to Santa Fe Boulevard in the eastern portion of the City; the UPRR running adjacent to SR 99; and, the M&ET, which runs through the Beard Industrial District along Yosemite Boulevard in southeast Modesto. Data regarding daily rail operations is not available, as operations fluctuate as demand for rail services varies.

During the noise monitoring survey contained in the UAGP, approximately 20 to 22 trains passed along the UPRR and BNSF lines each day and approximately eight to ten trains passed along the M&ET line daily.

Development facilitated by the Project could expose persons to excessive Ground-borne vibration levels attributable to train operations. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time; however, such uses located near the tracks could be exposed to ground vibration levels exceeding FTA guidelines.

[2] U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06, May 2006.

Rail traffic along the line is not anticipated to increase to 30 trains or more per day and future train activity would be considered "infrequent" with respect to the FTA vibration impact criteria. Since many of these trains pass during evening and nighttime hours when people are normally at rest, the 80 VdB limit is used to characterize the vibration compatibility. Ground-borne vibration levels from train passbys along this rail line are anticipated to range from 79 to 80 VdB at 50 feet from the center of a main railroad track, 73 to 74 VdB at 100 feet from the center of main railroad track, and 68 VdB at 200 feet from the center of main railroad track during freight and passenger train pass-by events. Residences proposed within 45 feet of the center of a main rail line could be exposed to vibration levels exceeding 80 VdB.

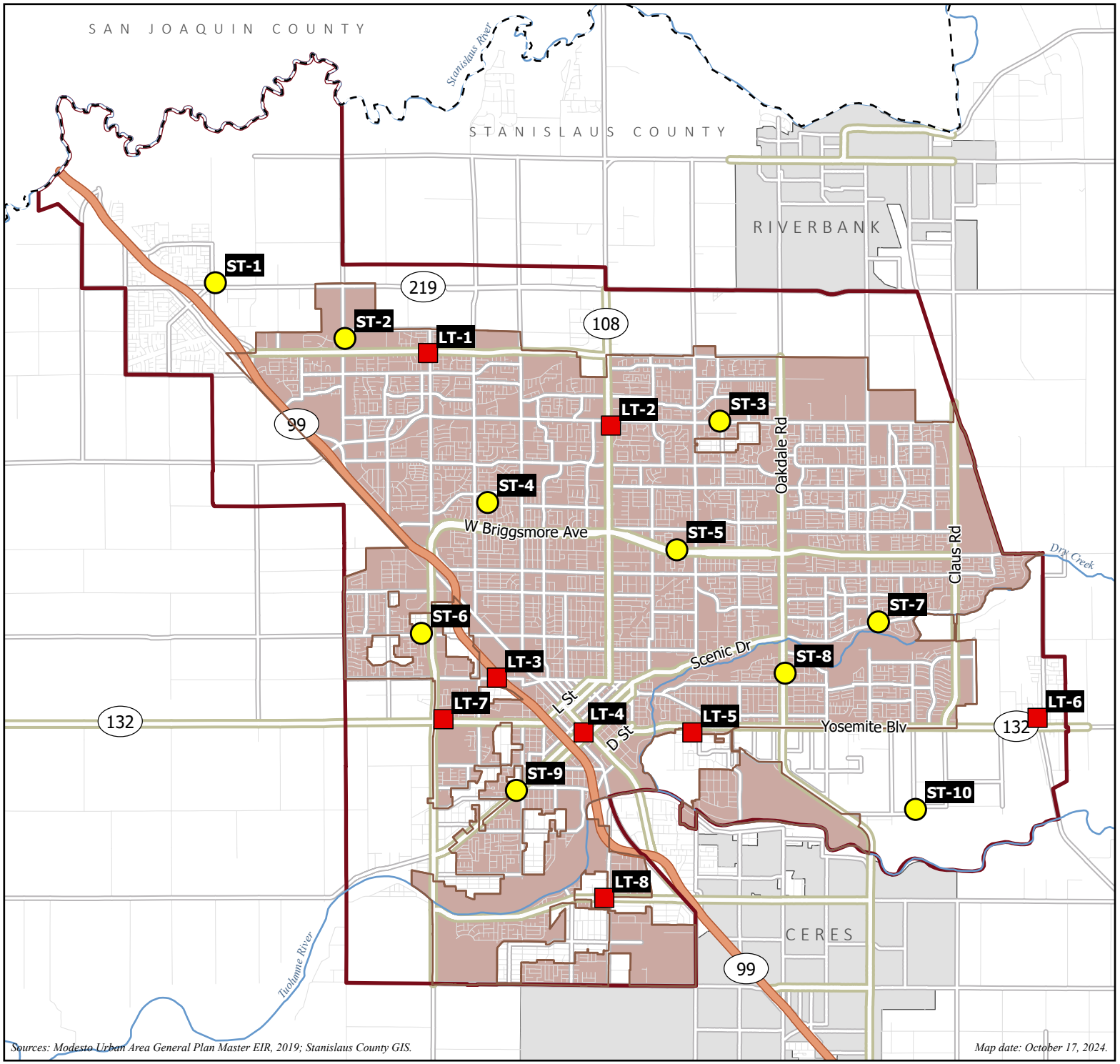
The applicable UAGP policies are aimed at reducing vibration impacts. Future building development would also be subject to the California Building Code requirements, which contain standards related to instability and groundborne vibrations from earthquake risk. However, such impacts could remain significant and unavoidable if the project-specific circumstances render application of mitigating policies infeasible. Therefore, the Project would have a ***significant and unavoidable*** impact relative to groundborne vibration.

Proposed Amendments to General Plan and Zoning Ordinance

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be developed. The increased density would concentrate more people and activities in the planning area, but this would not change vibration levels. The UAGP includes policies and actions to ensure that acceptable vibration levels are maintained regardless of land use or density levels. As new development occurs at a higher density, project specific analysis will be required to evaluate the project relative to the vibration standards. Projects will be required to incorporate measures to ensure compliance with the City's standards. However, this impact is considered to remain ***significant and unavoidable***.

Policies Adopted to Avoid, Minimize, or Mitigate Significant Effects

The UAGP provides the following policies related to vibration: Noise-13 and Noise-14. In addition, the City will comply with requirements of its Noise Ordinance. These policies address vibration, in addition to other noise sources.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.11-1.

NOISE MEASUREMENT LOCATIONS

Legend

- City of Modesto
- General Plan Planning Area
- Other Municipalities
- County Boundary
- Short-Term Measurement Location
- Long-Term Measurement Locatoin

0 1 2 Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page intentionally left blank.

Public services such as fire and police protection are vital to maintaining a safe and healthy community. Educational services serve as a foundation for providing citizens with the skills and resources to excel today and in the future. There are many other public services that are important to a community, such as parks and recreational opportunities, libraries, museums, hospitals, and other healthcare facilities.

This section provides a background discussion and analysis of fire protection services, police services, schools, parks and recreational facilities, libraries, and other community facilities and services. This section is organized with an existing setting, regulatory setting, and impact analysis.

Utilities services, including water, sewer, stormwater and drainage, and solid waste disposal, are addressed in Chapter 3.14 (Utilities and Service Systems) of this Draft EIR.

There was one comment received during the NOP comment period related to this environmental topic, from the Salida Fire Protection District.

3.12.1 EXISTING CONDITIONS

FIRE PROTECTION SERVICES

Modesto Fire Department

Fire protection within the city limits is provided by the Modesto Fire Department, which serves an area of approximately 37 square miles and approximately 90,000 housing units. Within the fire department, the Operations Division provides "all-risk" emergency and non-emergency services, including medical aids, technical rescues, public assists, hazardous materials, house fires, commercial fires, and vehicle accidents. All sworn Modesto Fire employees are trained to the level of Emergency Medical Technician (EMT), trained to provide Basic Life Support (BLS). Currently, 20 members are trained to the level of Emergency Medical Technician-Paramedic (EMT-P) and able to provide Advanced Life Support (ALS). In addition, the Operations Division responds to more than 1,400 fires each year and spends approximately 38% of its time committed to emergencies on fire suppression.

At least 34 firefighters and one battalion chief are on duty each 24-hour shift, and the department has a total of 150 authorized staff members and 140 sworn staff members. The department also employs a Fire Marshal, Deputy Fire Marshal, and three Fire Technicians who direct most fire prevention programs. The department operates nine engines, two ladder trucks, one Airport Rescue Fire Fighting engine, three ALS engines, a hazardous materials unit, and wildland units.

The Modesto Fire Department strives to achieve the following standards in 90 percent of all cases: a service standard of “first in” response time in all areas of the city within six minutes of dispatch; a “full alarm assignment” consisting of four engines, one truck, one Battalion Chief, and 16 personnel on scene within 10 minutes; and a “second alarm assignment” consisting of three additional fire units with a minimum of nine personnel within 15 minutes of dispatch.

Between 2015 and 2023, the Modesto Fire Department received an average of 24,762 calls annually, including 65% medical aid, 5% fire emergencies, 27.6% other emergencies, and 2% hazardous materials incidents. The department has experienced an increased demand for service due to growth, with fire and medical call volumes rising by 21.7% and 18.3% respectively. As of 2024, average response time is 6 minutes and 34 seconds and approximately 90 percent of all calls were answered within six minutes of dispatch.

Fire services in unincorporated areas around Modesto, within the city's Sphere of Influence, are provided by the Burbank/Paradise, Salida, Industrial, Woodland Avenue, and Stanislaus Consolidated Fire Protection Districts. Each of these districts is at least partially within the City's Sphere of Influence.

The rural level of service standard is characterized as a fire company equipped to handle basic structural fires and related emergencies that will arrive within 15 minutes of travel time, accompanied by other vehicles and capable of sustaining a 500-gallon-per-minute fire flow for one hour. The suburban level of service is characterized as a fire company equipped to handle all "risk emergencies" that will arrive within five to six minutes of travel time and capable of sustaining a flow for a 2,000-square-foot occupancy for one hour. An urban level of service is characterized as a fire company equipped to handle all risk emergencies that will arrive within five minutes of travel time 90 percent of the time, and capable of sustaining adequate fire flow for the designated risk level in the area. These are broad characterizations of levels of service and do not necessarily reflect the district's effectiveness or efficiency in dealing with a given emergency.

The Stanislaus Regional 9-1-1 Joint Powers Authority, which includes the various fire protection districts, distributes 911 emergency calls to the respective fire protection district with jurisdiction over the site of the emergency. There are mutual-aid agreements among the districts to provide for cross-jurisdictional assistance should a fire district need assistance responding to an emergency.

ISO RATING

The Insurance Services Office (ISO) Public Protection Classification Program currently rates the Fire Department as a 2 on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes. The ISO ratings are used to establish fire insurance premiums.

FIRE STATIONS

The Modesto Fire Department consists of 11 fully staffed stations, with additional stations planned in northeast Modesto. Each station in the department is equipped with one "Type 1" engine and three firefighters, except for Stations 8 (Harry Sham Field) and 11, which are staffed with a four- and three-firefighter truck company, respectively. In addition, Station 8 houses Aircraft Rescue / Firefighting apparatus that meets the requirements of the Federal Aviation Administration and Code

of Federal Regulations Part 139. Fire stations are strategically located throughout the City so that residents are not more than three miles from a first responder.

Each fire station within the service area of the City of Modesto is listed below.

- Station 1: 610 11th Street, Modesto, CA 95354 (operational)
- Station 2: 420 Chicago Avenue, Modesto, CA 95351 (operational)
- Station 3: 635 El Vista Avenue, Modesto, CA 95354 (operational)
- Station 4: 1501 Briggsmore Avenue, Modesto, CA 95355 (operational)
- Station 5: 200 W. Briggsmore Avenue, Modesto, CA 95350 (operational)
- Station 6: 2700 Standiford Avenue, Modesto, CA 95350 (operational)
- Station 7: 1800 Mable Avenue, Modesto, CA 95355 (operational)
- Station 8: 737 Airport Way, Modesto, CA 95354 (operational)
- Station 9: 4025 Fara Biundo Drive, Modesto, CA 95357 (operational)
- Station 10: 148 Imperial Avenue, Modesto, CA 95358 (operational)
- Station 11: 4225 Carver Road, Modesto, CA 95356 (operational)

POLICE PROTECTION SERVICES

Modesto Police Department

The Modesto Police Department (MPD) provides law enforcement and police protection services throughout the city. The MPD operates out of the department headquarters at 600 10th Street and a leased office space at 12th and F Streets. In addition, a substation located at 3705 Oakdale Road mainly handles fingerprinting as well as some crime prevention operations. The Police Department also has space at the Neighborhood Center at Marshall Park, which also serves the Fire Department and Parks, Recreation, and Neighborhoods Department. In 2023, the MPD had 173 sworn officers and 110 professional non-sworn staff.

ORGANIZATION

The Police Department consists of Operations, Investigative Services, and Support Divisions. Several special details—including special investigations, animal control, traffic, drug enforcement, crime prevention, drug education, and training—are divided among the divisions. The Operations Division handles most daily law enforcement, with personnel divided into four shifts for each 24-hour period. The Police Department maintains continuous patrols on city streets, structured to allow coverage to fluctuate according to changes in demand.

POLICE RESPONSE TIMES

Response times are an important benchmark of police service. Response times can vary greatly depending on the size of the city and department, geographical location, and levels of crime. Smaller cities usually have faster response times, due simply to the geography. Calls for service are prioritized into three general categories.

Response rates vary by type of incoming call; calls reporting crimes in progress (Priority 1P) receive the highest priority and the quickest response. In 2014, the average response time for 1P calls was 15.6 minutes, from call entry to officer arrival.

The department classifies calls for service as Priority 1, Priority 2 or Priority 3. Priority 1 calls are calls where a threat is posed to life or a crime of violence. Priority 2 calls are calls for service where there is an urgency or suspicious behavior. Priority 3 calls are calls for service where no emergency or serious problem is involved. In 2023, the averages for the department's response times for priority 1 calls are 6 minute and 42 seconds.

CRIMES BY CATEGORY IN MODESTO

In 2023, city law enforcement services received approximately 137,021 calls for service including reports of Part 1 crimes, which consist of murder, robbery, rape, aggravated assault, burglary, grand larceny, and auto theft incidents. Statistics on the number of crimes by category of crime in Modesto during each year from 2021 to 2023, as reported by the Modesto Police Department, are shown in Table 3.12-1 below.

TABLE 3.12-1: MODESTO POLICE DEPARTMENT CRIME STATISTICS (2021-2023)

CATEGORY/CRIME	*2021*	*2022*	*2023*
Total Violent Crimes	**1,578**	**923**	**759**
Homicide	10	9	7
Rape	127	106	110
Robbery	264	302	242
Assault	1,177	506	400
Total Property Crimes	**5,223**	**2,838**	**2,392**
Burglary	583	599	588
Motor Vehicle Theft	917	808	759
Larceny	3,723	1,431	1,045

SOURCES: MODESTO POLICE DEPARTMENT ANNUAL REPORTS, 2021-2023.

As shown in the table above, the majority of crimes committed in Modesto consist of property crimes, primarily vehicle larceny.

MISCELLANEOUS PUBLIC SAFETY

Multi-Jurisdictional Local Government Emergency Response

The Stanislaus County Office of Emergency Services (OES) is the single coordinating center for major emergency activities. In cooperation with others, OES maintains and oversees the Multi-Jurisdictional Hazard Mitigation Plan, which is the Countywide disaster preparedness program. OES also provides training for first responders, businesses, and other governmental agencies.

Community Health and Assistance Team

The Modesto Police Department's Community Health and Assistance Team (CHAT) is a program designed to use trained Outreach Specialists to respond to qualifying 911 calls, received through the

911 communications center, for mental health crises and similar non-criminal, non-violent incidents.

The Team currently consists of full-time staff who work in close collaboration with Stanislaus County social services, Non-profit organizations and Modesto Police Department's Homeless Engagement and Response Unit (HEART) team.

C.H.A.T. provides alternatives to traditional police responses and continues to evolve in order to meet the needs of the community.

PARKS AND RECREATIONAL FACILITIES

The Modesto Parks, Recreation & Neighborhoods Department is responsible for managing the city's parks, recreational facilities, and community programs, contributing to the health, wellness, and quality of life for residents. The department oversees approximately 75 parks covering over 1,100 acres, including neighborhood parks, community parks, and regional facilities like Graceada Park and Dry Creek Regional Park. These spaces offer amenities such as playgrounds, picnic areas, sports fields, trails, and open spaces for public enjoyment.

In addition to park management, the department runs a variety of recreational programs for all ages, including youth sports leagues, senior activities, fitness programs, and special events. The Modesto Senior Citizens Center, Maddux Youth Center, and multiple community pools are key facilities operated by the department.

Specifically, the department operates and maintains the following:

- 1,246 acres of parks and trails
- 9 splash grounds;
- 1 wading pool;
- 33 tennis courts;
- 12 pickleball courts;
- 28 ball fields;
- 31 soccer fields ;
- 18 group picnic sites;
- 17 miles of bike trails.

SCHOOLS

Modesto is served by 8 school districts: Modesto City Schools (MCS), Hart-Ransom Union, Stanislaus Union, Salida Union, Sylvan Union, Paradise Elementary, Empire Union, and Keyes Union. The Riverbank Unified and Oakdale Joint Unified school districts, located immediately north and east, respectively, of the Modesto planning area, serve a small number of students living within the Modesto planning area; similarly, the Hughson Unified and Ceres Unified School Districts serve some students living near Modesto's southern city limits. Most of the city is served by the MCS district, which includes elementary schools, middle schools, and high schools.

Within the City of Modesto, there are 36 schools serving elementary age and middle school students, and 9 high schools. Table 3.12-2 lists MUSD schools in Modesto and the most recent enrollment for each school.

TABLE 3.12-2: PUBLIC SCHOOLS SERVING MODESTO

SCHOOL	*GRADES SERVED*	*ADDRESS*	*ENROLLMENT 2023-24 SCHOOL YEAR*
ELEMENTARY AND MIDDLE SCHOOLS			
Alberta Martone Elementary	K-6	1413 Poust Rd.	647
Aspire University Charter	K-6	819 Sunset Ave.	425
Bret Harte Elementary	K-6	909 Gleen Ave.	856
Burbank Elementary	K-6	1135 Paradise Rd.	570
Catherine Everett Elementary	K-6	1530 Mt Vernon Dr.	414
Connecting Waters Charter School - Central Valley	K-8	5601 S. 7th St.	708
El Vista Elementary	K-6	450 El Vista Ave.	420
Elihu Beard Elementary	K-6	915 Bown Ave.	440
Enslen Elementary	K-6	515 Coldwell Ave.	332
Evelyn Hanshaw Middle	7-8	1725 Las Vegas St.	679
Fairview Elementary	K-6	1937 W Whitmore Ave.	733
Franklin Elementary	K-6	120 Emerald Ave.	782
Harriette Kirschen Elementary	K-6	1900 Kirschen Ct.	533
James Marshall Elementary	K-6	515 Sutter Ave.	601
John Fremont Elementary	K-6	1220 Orangeburg Ave.	620
John Muir Elementary	K-6	1215 Lucern Ave.	555
Lakewood Elementary	K-6	2920 Middleboro Pl.	710
Robertson Road Elementary	K-6	1821 Robertson Rd.	303
Rose Avenue Elementary	K-6	1120 Rose Ave.	530
Shackelford Elementary	K-6	100 School Dr.	447
Sonoma Elementary	K-6	1325 Sonoma Ave.	513
Mark Twain Elementary School	K-6	707 S Emerald Ave.	681
Orville Wright Elementary	K-6	3100 Stone Ave.	367
Robertson Road Elementary	K-6	1821 Robertson Rd.	303
Roosevelt Junior High	7-8	1330 College Ave.	816
La Loma Junior High School	7-8	1800 Encina Ave.	710
Tuolumne Elementary School	K-8	707 Herndon Rd.	607
Garrison Elementary School	K-6	1811 Teresa St.	313
Wilson Elementary	K-6	201 Wilson Ave.	253
HIGH SCHOOLS			
Aspire Vanguard College Preparatory Academy	9-12	819 Sunset Ave	621
Fred Beyer High School	9-12	1717 Sylvan Ave.	1,590
Grace Davis High School	9-12	1200 W. Rumble Rd.	2,022
Downey High School	9-12	11040 Brookshire Ave	2,055
James Enochs High School	9-12	3201 Sylvan Ave.	2,369
Gregori High School	9-12	3701 Pirrone Rd.	2,414
Johansen High School	9-12	641 Norseman Dr.	2,000
Modesto High School	9-12	18 H St.	2,405
ALTERNATIVE SCHOOLS			
Elliott Alternative Education Center	9-12	1440 Sunrise Ave.	596

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2023-24

As shown in Table 3.12-2, the schools serving the City had a total enrollment of approximately 31,431 students, of which 15,270 were enrolled in elementary and middle school (grades K – 8) and 16161 were enrolled in high school (grades 9 – 12).

District-wide MCS Schools has a total enrollment of 31, students for the 2023-2024 school year. Table 3.12-3 provides a summary of the public-school enrollment by grade within Modesto.

TABLE 3.12-3: ENROLLMENT BY GRADE MCS (2023-2024)

MODESTO CITY	*GRADE LEVEL*													
	K	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*TOTAL 2023-2024*
Total	580	1,496	1,603	1,695	1,710	1,634	1,695	1,610	1,656	3,859	3,988	3,972	4,232	31,431

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2023-2024.

OTHER PUBLIC FACILITIES

Library Services

Modesto's library services are provided primarily through the Modesto Library, a branch of the Stanislaus County Library system. The library offers a comprehensive range of services, including access to books, digital media, educational programs, and community events. The facility serves as a vital resource for lifelong learning and literacy development, catering to diverse populations, including children, teens, and adults. The library also provides computer access, research assistance, and programs aimed at improving digital literacy.

Modesto Senior Center

The Modesto Senior Citizens Center offers various programs and services designed to promote healthy aging and social engagement among seniors. Activities include fitness classes, arts and crafts, social events, and educational workshops. The center also provides resources for health and wellness, nutritional programs, and opportunities for volunteerism.

Hospital and Medical Facilities

Modesto is served by several healthcare facilities, including Doctors Medical Center and Memorial Medical Center. Both hospitals provide a range of medical services, including emergency care, surgery, maternity services, and specialized treatments. These facilities are equipped with modern technology and staffed by healthcare professionals, ensuring access to comprehensive medical care. In addition to hospitals, various outpatient clinics and specialized healthcare providers provide availability of medical services in the region.

3.12.2 REGULATORY SETTING

FEDERAL

There are no Federal regulations applicable to the environmental topics of public services and recreation.

STATE

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

EMERGENCY RESPONSE/EVACUATION PLANS

The State passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

CALIFORNIA FIRE CODE

The 2019 California Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

CORTESE-KNOX-HERTZBERG LOCAL GOVERNMENT REORGANIZATION ACT

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Government Code Section 56000, et seq.) empowers each county Local Agency Formation Commission (LAFCo) to consider incorporation of new cities, annexation of lands to existing cities and special districts, and other changes to city and district boundaries. In order to carry out its responsibilities for planning orderly development and coordination of local government agencies, the LAFCo develops a sphere of influence of each local government agency within the county, with respect to present and probable need for fire services in the area. LAFCo policies discourage "sprawl" (i.e., a pattern of development characterized by LAFCo by the inefficient delivery of important urban services, such as fire protection). By discouraging sprawl, the LAFCo promotes a more efficient system of local government agencies. When determining spheres of influence for cities and special districts, the LAFCo must conduct a service review of the municipal services provided in an area, as determined by the LAFCo. The Municipal Service Review (MSR) is a comprehensive review of all the agencies that provide the service within the identified area. Typical municipal services include police, fire, sewer, water, and storm drainage services. When conducting the MSR, the LAFCo must prepare a written statement of its determinations with respect to the factors identified in Government Code Section 56430. These factors require consideration of infrastructure needs, projected demand from future growth, financing constraints and opportunities, and options for the administration of services.

Pursuant to California Revenue and Taxation Code Section 99, as part of an annexation under the Cortese-Knox-Hertzberg Act, the annexing City must provide the LAFCo an agreement approved by the affected special district that describes how property taxes collected from the area proposed to be annexed will be split between the city and the special district. LAFCo will memorialize this agreement as part of its proceedings.

The Stanislaus LAFCo considers the provision of adequate fire service in connection with approval of annexations and the establishment of spheres of influence. Adopted LAFCo policies require that when a local agency submits a resolution of application for a change in organization or reorganization, a plan for service must be prepared and submitted to the LAFCo by the local agency proposing the annexation. A Plan for Services must include information that the range and level of services currently available within the existing boundaries will be at least maintained in the proposed annexation area. Annexations that reduce the existing levels of service will not be approved by the LAFCo.

NFPA 1710

The National Fire Protection Association (NFPA) 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one minute or less for at least 90 percent of the alarms;
- Turnout time of one minute or less for EMS calls (80 seconds for fire and special operations response);
- Fire response travel time of four minutes or less for the arrival of the first arriving engine company at a fire incident and eight minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident;
- Eight minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department.

Parks and Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. The City has adopted park fees as allowed by the Quimby Act, as described in greater detail below.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Chapter 4.9, Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project. *Section 65995-65998 (h)* The payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are hereby deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and

counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- Level I fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.

- Level II fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.

- Level III fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

LOCAL

City of Modesto Urban Area General Plan

A discrete reference number is assigned to each policy to facilitate its identification elsewhere in this Program EIR (e.g., policies are designated as FS-X, where X is the discrete number).

Fire: The UAGP provides the following policies related to fire protection in the Baseline Developed Area, Downtown Area and Planned Urbanizing Area:

FS-1: Maintain adequate fire flows in relation to structure size, design, and requirements for construction and/or built-in fire protection systems in accordance with the California Fire Code and adopted local ordinances. Determination of adequate fire flows includes factors such as storage capacity, system gridding, hydrant spacing, and spacing and sizing of water mains. (UAGP Policy VI.K.1)

FS-2: Ensure adequate ingress and egress to all structures for fire fighting and rescue purposes independent of privately owned and maintained driveways. Provide protection of life and property through the use of engineered fire protection systems, including roof systems. (UAGP Policy VI.K.2)

FS-3: Practice timely adoption of the current edition of the California Fire Code including local ordinances designed to address local conditions. The California Fire Code may be amended to suit local conditions. (UAGP Policy VI.K.3)

FS-4: Ensure that fire stations, apparatus, equipment, and personnel are in place concurrent with construction in the Planned Urbanizing Area. (UAGP Policy VI.K.4)

FS-5: Future fire station sites and facilities should be closely coordinated with existing and planned public parks, libraries, and other activity centers in order to encourage maximum efficiency of public facilities. (UAGP Policy VI.K.5)

FS-6: Promote fire-safe behaviors within the community through public fire education activities and programs. (UAGP Policy VI.K.6)

FS-7: Maintain its readiness to mitigate man-made or natural disasters through maintenance and implementation of the Multi-Hazard Functional Plan, the Multi-Hazard Mitigation Plan, and the Emergency Operations Plan. (UAGP Policy VI.K.7)

FS-8: Maintain equipment, staffing, and facilities to provide Emergency Medical Services, Fire Prevention and Suppression, Urban Search and Rescue, and Hazardous Materials Response Capabilities. (UAGP Policy VI.K.8)

FS-9: Provide an adequate Fire and Life Safety Delivery system through the achievement of the following standards.

- Maintain an emergency response system capable of achieving the following standards in 90 percent of all cases.
  - The first fire emergency response unit arrives within six minutes of dispatch.
  - A full alarm assignment consisting of four engines, one truck, one Battalion Chief, and 16 personnel arrives within ten minutes of dispatch.
  - A second alarm assignment consisting of three additional fire units with a minimum of nine personnel arrives within 15 minutes of dispatch.

FS-10: Protect life and property by requiring engineered fire protection systems and fire resistive roof systems as part of all new construction; in situations where access is limited, fire sprinklers shall be required for new construction. (UAGP Policy VI.K.10)

FS-11: Provide an effective prevention program aimed at fire loss reduction through inspection, investigation, and public education. (UAGP Policy VI.K.11)

FS-12: Coordinate with affected fire protection districts when an annexation to the City is proposed, and before it has been finalized, regarding fire protection and other emergency services. (UAGP Policy VI.K.12)

Urban Services: The UAGP also provides the following urban services policy within the Planned Urbanizing Area only.

FS-13: Each Specific Plan should be accompanied by a long-range financing strategy that provides reasonable estimates of the costs of on- and off-site infrastructure to support the proposed development pattern. The strategy should generally address public facility funding, including schools, for any development project that serves to implement the subject Comprehensive Plan. If new public facilities are required that will also serve the broader community, the Specific Plan should include options for broad-based funding mechanisms. Each Specific Plan should address the need to provide water, wastewater and storm drainage infrastructure, in the context of the required Facilities Master Plan and Infrastructure Master Plan prepared at the developer's expense. (UAGP Policy III.I.4)

FS-14: Negotiate with affected fire protection districts when an annexation to the City is contemplated and before it has been effected to determine whether the boundary change may result in the erosion of fire protection or other emergency services. Any resulting agreements must be approved by City Council and the governing board of the fire protection district prior to City Council approval of the annexation. Options range from the consolidation of the fire protection district into Modesto City Fire to revenue sharing. (UAGP Policy VI.K.13)

Police: The following UAGP policies apply in the Baseline Developed Area and, where relevant, in the Planned Urbanizing Area. In general, however, the Modesto Police Department is only authorized to provide services within the incorporated Modesto city limits.

PS-2: Maintain an adequate personnel level to organize patrol areas, and provide investigative responses to achieve a comfortable and safe community climate conducive to a high quality of life. To the maximum economic extent feasible, police operations should include proactive law enforcement and administrative efforts, all to be expanded as the City's population grows. (UAGP Policy VI.J.1)

PS-3: Strive to reduce the level of crime below levels of other progressive departments with comparable populations and demographics. (UAGP Policy VI.J.2)

PS-4: Provide sworn officers in sufficient numbers to support basic police services consistent with other progressive departments with comparable populations and demographic statistics. The recommended long-term police staffing goal is a ratio of 1.85 sworn officers per one thousand residents. (UAGP Policy VI.J.3)

PS-5: Strive to provide civilian staff in sufficient numbers to support sworn staff and to support continuing civilianization of services such as Crime Prevention, Investigative Support, Crime Scene Investigation, Accident Reports, and other documentation of incidents and other forms of clerical support. (UAGP Policy VI.J.4)

PS-6: Maintain efforts to educate the public about crime deterrence through programs like the Neighborhood Watch Program within residential neighborhoods, Traffic Watch Program on

residential streets, and the Business Watch Program within commercial and industrial areas. (UAGP Policy VI.J.5)

PS-7: Review proposed projects in order to evaluate security features, encourage Crime Prevention Through Environmental Design (CPTED), and evaluate traffic flow with respect to speed and collision mitigation. Ensure that the following CPTED principles, as modified by periodic amendments thereto, are incorporated in specific sites and situations, including new development.

a) Territoriality is a design concept that clearly delineates private space from semi- public and public spaces and also creates a sense of ownership. Ownership thereby creates an environment where appearances of such strangers and intruders stand out and are more easily identified through:

- The enhanced feeling of legitimate ownership by reinforcing existing natural surveillance and natural access control strategies with additional symbolic or social ones;
- The design of space to allow for its continued use and intended purpose; and,
- The use of pavement treatments, landscaping, art, signage, screening and fences define and outline ownership of space.

b) Natural surveillance is a design concept directed primarily at keeping intruders under observation. Provision of natural surveillance helps to create environments where there is sufficient opportunity for people engaged in their normal behavior to observe the space around them. Areas can be designed so they are more easily observed through:

- Design and placement of physical features to maximize visibility. This may include: building orientation, windows, entrances and exits, parking lots, refuse containers, walkways, guard gates, landscape trees and shrubs, use of wrought iron fences or walls, signage and other physical obstructions;
- Placement of persons or activities to maximize surveillance possibilities; and,
- Minimum maintained lighting standards that provide for nighttime illumination of parking lots, walkways, entrances, exits, and related areas to promote a safe environment.

c) Access control is a design concept directed primarily at decreasing criminal accessibility. Provision of natural access control limits access and increases natural surveillance to restrict criminal intrusion, especially into areas where they will not be easily observed. Intruders are more readily recognized through:

- The use of sidewalks, pavement, gates, lighting and landscaping to clearly guide the public to and from entrances and exits; and,
- The use of gates, fences, walls, landscaping and lighting to prevent or discourage public access to or from dark or unmonitored areas.

d) Activity support is the presence of activity planned for the space, and involves placing activity where the individuals engaged in an activity will become part of the natural surveillance system. Examples include:

- Place safe activities in areas that will discourage would-be offenders, to increase the natural surveillance of these activities and the perception of safety for normal users, and the perception of risk for offenders;
- Place high-risk activities in safer locations to overcome the vulnerability of these activities by using natural surveillance and access control of the safe area;
- Locate gathering areas in locations that provide for natural surveillance and access control or in locations away from the view of would-be offenders; and,
- Improve the scheduling of space to allow for effective use and appropriate intensity of accepted behaviors.

e) Proper maintenance of landscaping, lighting treatment, and other features can facilitate the principles of CPTED. Functions include:

- Proper maintenance of lighting fixtures to prescribed standards;
- Landscaping that is maintained at prescribed standards; and,
- Minimizing the conflicts between surveillance and landscaping as groundcover, shrubs and trees mature. (UAGP Policy VI.J.6)

Parks and Open Space: The City's UAGP provides the following goals and policies related to recreation and parks:

POS-2: Neighborhoods should contain an ample supply of specialized open space in the form of squares, greens and parks, whose frequent use is encouraged through placement and design. Provide linkages between such areas and surrounding neighborhoods. (UAGP Policy III.C.10)

POS-3: Work to provide opportunities for social interaction of residents from all backgrounds and walks of life and to create public places where people can gather. There should be an equitable distribution of open space facilities throughout the City. (UAGP Goal VI.H)

POS-4: Figure VI-D-2 presents Park Planning Areas within the Sphere-of-Influence. With regards to **acreage**, service area, location, and street frontage standards, the existing park system shown on Figure VI-D-1 should be considered adequate and acceptable, as is, with the following exceptions, by Park Planning Area designation:

- Bret Harte
- Shackelford
- Tide Water Industrial
- Burbank
- Maze Wren
- Woodland

- College West
- North East McHenry
- Empire East
- Empire West
- Airport

Within these Park Planning Areas, the open space and parks system is NOT considered adequate and acceptable as is, and the City will endeavor to develop facilities in accordance with all of the Open Space and Parks policies and Community and Neighborhood Park standards that apply to the Baseline Developed Area. However, the City recognizes and accepts that it may not be possible to conform precisely to all policies and/or meet all standards because of prior development patterns and policies in effect at the time of development that were not under the City's control. (UAGP Policy VI.H.1)

POS-5: Plan, acquire, and develop parks and recreation facilities adjacent to schools in order to maximize the potential for joint use of adjoining City and School District open space and recreation facilities. (UAGP Policy VI.H.2)

POS-6: Only acreage owned or otherwise controlled exclusively by the City in perpetuity and planned to be developed and operated for the express and primary purpose of providing recreation facilities as set forth in the Neighborhood and Community Park standards outlined in the General Plan will count toward minimum acreage standards. Acreage planned and developed primarily for other purposes such as trails and elements of drainage systems shall not count toward meeting minimum standards for Neighborhood and Community Parks. (UAGP Policy VI.H.3)

POS-7: Update and maintain the Capital Facility Fee program for park development to contribute to park system development. City shall also endeavor to provide funding for land acquisition, engineering, design, development, maintenance and preservation of the parks system through funding from fund development efforts, grants, general fund contributions, Capital Facility Fees, Community Financing Districts, and other forms of revenue building. (UAGP Policy VI.H.4)

POS-8: Develop non-motorized connections as discussed in the Non-Motorized Transportation Plan such as multi-use paths or sidewalks and bike lanes, to ensure adequate connectivity from the surrounding neighborhoods. (UAGP Policy VI.H.5)

POS-9: Provide at least one neighborhood park within each Park Planning Area. The neighborhood park should be centrally located within the Park Planning Area and have a service radius of one-half to three-quarters of a mile. The neighborhood park should have one collector street frontage and the remaining sides should front on residential streets. The minimum size for a neighborhood park shall be seven acres or the total acreage based on two acres of park land per one thousand population within the Park Planning Area, whichever is greater. (UAGP Policy VI.H.6)

POS-10: The Community Park Service Area is that area within a radius of approximately one to one-and-one-half miles of the community park site. The community park should have major street frontage and the remaining sides may front on residential streets. The minimum size for a community park should be twenty-five acres or the total acreage based on one acre of park land per one thousand population within the Community Park Service Area, whichever is greater. (UAGP Policy VI.H.7)

POS-11: The policies and standards for the development of the park system within the Planned Urbanizing Area differ in several respects from those in the Baseline Developed Area. These policies and standards will be implemented through each Specific Plan, in conjunction with the relevant Comprehensive Planning District policies presented in Chapter III [of the UAGP]. (UAGP Policy VI.H.8)

POS-12: The acreage standards related to Neighborhood and Community Parks are considered minimums. Park acreage may be increased beyond the minimum standard acreage at the option of a developer with additional contiguous, clean and usable parkland, as long as the additional land is fully dedicated and design and construction are fully funded at no additional cost to the City or associated park development fee program. These acreage standards may be enhanced by additional open space to meet unique characteristics of the Specific Plans for each new Comprehensive Planning District. (UAGP Policy VI.H.9)

POS-13: Where dual-use park / basin facilities exist, only acreage owned or otherwise controlled exclusively by the City in perpetuity will count toward minimum park acreage standards. Park acreage credit for dual-use facilities shall be calculated in accordance with the standards and criteria contained in the City of Modesto's Design Standards for Dual Use Flood Control/Recreation Facilities manual. In contrast to the Baseline Developed area, School District open space does NOT count towards minimum park acreage requirements within the Planned Urbanizing Area. (UAGP Policy VI.H.10)

POS-14: Design and construct dual-use facilities in accordance with the standards and criteria contained in the "Design Standards for Dual use Flood Control / Recreation Facilities" manual. (UAGP Policy VI.H.11)

POS-15: Provide at least one neighborhood park within each residential neighborhood. The neighborhood park should be centrally located within the neighborhood and have a service radius of one-half to three-quarters of a mile. The neighborhood park should have one collector street frontage, and **the** remaining sides should front on residential streets. The minimum size for a neighborhood park shall be seven acres or the total acreage based on one acre of park land per one thousand population within the neighborhood, whichever is greater. (UAGP Policy VI.H.12)

POS-16: The Community Park Service Area is that area within a radius of approximately one to one-and-one-half miles of the community park site. The community park should have one major street frontage and the remaining sides may front on residential streets. Community parks should **not** back up to residential lots. The minimum size for a Community Park should be

forty acres or the total acreage based on two acres of park land per one thousand population within the Community Park Service Area. (UAGP Policy VI.H.13)

POS-17: Figure VI-D-1 [of the UAGP] presents the existing (2014) park system. Section VI.D.2 [of the UAGP] **presents** a variety of policies applying to parks within the Baseline Developed Area. (UAGP Policy VII-B.6[a]) POS-18: Within the Planned Urbanizing Area, development of new parkland and open space shall be accomplished through the application of specified performance standards presented in Section VI.D.3 [of the UAGP]. (UAGP Policy VII-B.6[b]) POS-19: The regional park systems for Dry Creek and the Stanislaus and Tuolumne Rivers are defined in Chapter III, as follows: the Stanislaus River Comprehensive Planning District; the Tuolumne River Comprehensive Planning District; and, the Dry Creek Comprehensive Planning District. (UAGP Policy VII-B.6[c])

POS-20: Visual corridors of the river will be protected and enhanced. (UAGP Policy VII B.7[a]) POS-21: Visual corridors and access points on the riverfront will be recreated through redevelopment. (UAGP Policy VII-B.7[b])

POS-22: Identifiable park entrances will be created. A comprehensive program of park signage and graphics will be developed. (UAGP Policy VII-B.7[c])

POS-23: Adequate circulation throughout the park will be provided in order to accommodate pedestrians, bicyclists, and vehicles, as well as equestrians and boaters, if appropriate. Opportunities for park access via public transportation will be provided. (UAGP Policy VII-B.7[d])

POS-24: Active and passive recreational areas with universal access will be created. (UAGP Policy VII-B.7[e])

POS-25: Vehicular and pedestrian connections to the park that are direct and user-friendly will be provided. (UAGP Policy VII-B.7[f])

POS-26: Adequate parking for park activities will be provided. (UAGP Policy VII-B.7[g])

POS-27: A continuous trail linkage will be provided throughout the park that includes a range of experiences. (UAGP Policy VII-B.7[h])

POS-28: Public access points and linear foot and bike paths will be incorporated into residential redevelopment as discussed in the Non-Motorized Transportation Master Plan. (UAGP Policy VII-B.7[i])

POS-29: Riverfront vegetation will be consistent with riparian habitat zones. (UAGP Policy VII-B.7[j])

POS-30: Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and only uses dependent on such resources shall be allowed within such

areas (e.g., nature education and research, fishing and habitat protection). (UAGP Policy VII-B.7[k])

POS-31: Sensitive habitats and natural areas, including wetlands and riparian corridors, will be protected and enhanced, when feasible. (UAGP Policy VII-B.7[l])

POS-32: Existing wildlife habitat areas will be protected and enhanced, when feasible. (UAGP Policy VII-B.7[m])

POS-33: Aquatic species and habitat will be protected and enhanced, when feasible. (UAGP Policy VII-B.7[n])

POS-34: The natural forces influencing the development of recreational areas, including potential flooding, prevailing winds, sun orientation, and topography will be considered during design. (UAGP Policy VII-B.7[o])

POS-35: A flood management program that provides protection from catastrophic flooding and contributes to the ecological values of the river corridor will be promoted. (UAGP Policy VII-B.7[p])

POS-36: The scenic resources of Public Trust lands and resources shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect scenic views associated with Public Trust lands and resources. (UAGP Policy VII-B.7[q])

POS-37: Areas to accommodate multiple purposes and changes in recreational preferences over time will be developed. (UAGP Policy VII-B.7[r])

POS-38: Park and trail systems will be expanded as land becomes available. (UAGP Policy VII-B.7[s])

POS-39: Adequate support facilities for recreational activities will be developed. (UAGP Policy VII-B.7[t])

POS-40: Historical and archaeological resources will be preserved and protected, when feasible. The locations of archaeological resources will not be disclosed to the public. (UAGP Policy VII-B.7[u])

POS-41: Support the California State Parks Department's efforts to provide additional recreational opportunities within the City. (UAGP Policy VII-B.7[v])

POS-42: Support the findings and recommendations discussed within the California State Parks' Central Valley Vision Report as well as subsequent studies that pertain to the city. (UAGP Policy VII-B.7[w])

Schools: An objective of the UAGP is to place a hierarchy of schools near the residential areas that they may serve, to maximize the opportunity for children to walk or bike to school, minimize the

extent of busing, reduce the use of private vehicles, and maximize the use of adjoining school and park facilities. The UAGP has the following policies relating to schools:

S-1: Neighborhoods should contain sufficient K-12 schools necessary to serve them. Locate schools on Collector streets, preferably at or near the intersection of two Collector streets. Locate neighborhood parks (see Chapter VI for parks standards) adjacent to school sites. New schools and parks should be surrounded by streets on all sides wherever possible to encourage access by walking and bicycling. (UAGP Policy III-C.8)

S-2: For families with young children, the proximity of schools within easy walking distance is a strong criterion in their evaluation of housing choices. School districts are encouraged to involve the City in deliberations regarding any contemplated school closures as early as possible. Consistent with state statutes, school districts are encouraged to include extensive community participation in the process to close any existing schools. (UAGP Policy VI.I.1)

S-3: Continue to require that developers pay, prior to issuance of any building permit, the maximum residential, commercial, and industrial development school fees in effect. This requirement is in accordance with the provisions of State law. (UAGP Policy VI.I.2)

S-4: Directly involve School Districts in the lead time for planning of infrastructure. (UAGP Policy VI.I.3)

S-5: Public schools should be central to neighborhoods. Schools, placed conveniently to the residents to be served, will maximize opportunities for students to walk and bike to school. Opportunities should be explored for joint school / park development when planning new schools. The option for joint acquisition and development of school and park sites should be continued. (UAGP Policy VI.I.4)

S-6: Land for new school facilities should generally meet the following minimum space requirements:

1. Elementary schools—ten (10) acres (gross)
2. Middle schools or junior high schools—20 acres (gross)
3. High schools—50 acres (gross). (UAGP Policy VI.I.5)

S-7: All of the policies for "Public Schools – Baseline Developed Area" apply equally in the Planned Urbanizing Area. (UAGP Policy VI.I.6).

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services and recreation 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 or other performance objectives for any of the public services:

- Fire Protection;
- Police Protection;
- Schools;
- Parks; and
- Other public facilities.

- An increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- If it includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: The proposed Project would not result in result in adverse physical impacts on the environment associated with the need for new governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts (Less than Significant)

Development accommodated under the UAGP would result in additional residents in the City. As described in Chapter 2.0, the UAGP is expected to accommodate up to 11,085 units within the city limits, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This represents an increase of 8,530 units within the city limits at full buildout. Outside the city limits, but within the planning area, the existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units in the area outside the city limits but within the planning area. The total increase in housing capacity is estimated with be 21,837 units.

The Baseline Developed Area and Downtown Area are already developed. With the implementation of UAGP policies FS-1 through FS-12, any impact(s) resulting from new development regarding fire services in these areas would be less than significant. Implementation of the UAGP would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives within the existing City.

Furthermore, UAGP policies PS-2 through PS-7 in the UAGP would result in adequate police staffing consistent with new growth and development.

The UAGP planning area includes areas with proposed development for which a six-minute response, a full alarm within ten (10) minutes, and a second full alarm within 15 minutes would not be possible because no fire stations currently exist within an approximately 1.5- to two-mile radius

of those areas. General Plan Policies FS-1 through FS 14 would facilitate adequate fire protection facilities to be in place concurrent with new development in the Planned Urbanizing Area. These policies would be implemented with the adoption of future Specific Plans. As shown in the analysis below, any subsequent impact(s) would be less than significant. Therefore, implementation of the proposed project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives.

Complying with LAFCo requirements and the UAGP policies PS-2 through PS-7, in addition to policies such as III.J.4 that requires a long-range financing strategy for each Comprehensive Planning District, would allow the City to provide the resources necessary to extend service to the newly growing Planned Urbanizing Area.

Increased demand for school facilities would result in a significant impact on schools in that it would exceed current capacity. By statute, however, this impact would be mitigated below a level of significance through the payment of school impact fees and the exercise of any or all the financing options set forth in Government Code Section 65997.

Future school construction would result in environmental impacts. However, the location, size, and timing of future schools are under the authority of the various school districts that will undertake CEQA analyses of those facilities before they are approved and constructed. Because these facilities would be considered under separate CEQA analyses, and because the City would have no approval authority or any other related responsibility, no analysis is required in this document.

Conclusion: Development and growth facilitated by the UAGP would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Modesto.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., office, maintenance, and administrative buildings and facilities, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the city. Existing facilities may be expanded at their current location and there would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide public services.

The UAGP does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new governmental facilities) are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with

the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new facilities will be needed to serve growth contemplated in the UAGP. The environmental effect of providing the public services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the UAGP does not propose or authorize development nor does it designate specific projects for new or expanded public facilities. However, new and expanded facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the UAGP. These impacts are described in the relevant chapters (Chapters 3.1 through 3.12, 3.14 through 3.16 and 4.0) of this Draft EIR. As discussed in Chapters 3.1 through 3.12 and 3.14 through 3.16 and 4.0, the UAGP includes policies and actions that are specifically designed to reduce or avoid environmental impacts of construction and development, which includes public facilities. There are no additional significant impacts related to construction of governmental and public facilities, consistent with the UAGP land use designation and Land Use Map, beyond the impacts that are analyzed throughout this EIR. Any future development, including new and expanded governmental facilities, under the UAGP would be subject to project-level review, would be required to comply with regulations, policies, and standards included in the General Plan, and would be reviewed for compliance with CEQA, including analysis of project-level impacts and mitigation measures as appropriate.

The General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for public facilities are ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of Planning Area, but development and growth facilitated by the density changes would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., office, maintenance, and administrative buildings and facilities, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the city. Existing facilities may be expanded at their current location and there would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide public services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in

collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Modesto. Therefore, impacts related to the provisions and need for public facilities are ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The adopted policies of LAFCo and the General Plan (FS-1 through FS–14) would reduce direct impacts by facilitating the provision of adequate fire services concurrent with new development, and by requiring analysis of and mitigation for any potentially significant adverse environmental impacts resulting therefrom.

No significant direct impacts have been identified for police services, based on the implementation of policies PS-2 through PS-7, which would result in adequate police staffing levels for Modesto's population, demographics and geography.

UAGP policies (S-1 through S-7, above) constitute conformance with PRC Section 21081.6(b). Furthermore, the payment of school impact fees and compliance with SB 50 and related legislation is statutorily deemed to be full mitigation of impacts related to increased demand for school facilities (Government Code Section 65997).

Impact 3.12-2: The Project would not result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities (Less than Significant)

Existing parks are shown in Figure 3.12-1. Growth accommodated under the General Plan would include a range of uses that would increase the population of the City and also attract additional workers and tourists to the City. Such growth would result in increased demand for parks and recreation facilities. It is anticipated that over the life of the UAGP, use of parks, trails, and recreation facilities would increase, due to new residents and businesses. The additional demand on existing parks and recreational facilities would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown.

The provision of new parks and recreation facilities would reduce the potential for adverse impacts and physical deterioration of existing parks and recreation facilities, by providing additional facilities to accommodate the demand for parks and recreation facilities. These new facilities would be provided at a pace and in locations appropriate to serve new development, as required to maintain the City adopted standards for park space acreage including the standard for neighborhood parks – one (1) acre of parkland and open space per 1,000 people; and community park – two (2) acres of parkland and open space per 1,000 people. Development under the UAGP would indirectly lead to the construction of new parks and recreation facilities to serve new growth and to meet existing parks and recreation needs. The General Plan supports the creation of new parks and recreation facilities, including new parks and trails, to accommodate a wide range of activities for all age groups. These new parks and recreation facilities would be spread throughout areas proximate to new

development in and around existing neighborhoods. Neighborhood and community parks and trails would generally be accommodated in the Public/Quasi-Public, Park, and Open Space Land use designations.

The UAGP does not propose any elimination of existing park or open space land, and any existing deficiency in park acreage does not constitute an adverse impact associated with the proposed Project. New residential infill development, particularly in the Downtown area, would be able to utilize project-specific recreational amenities and the Tuolumne River Regional Park facilities, among others.

The projected additional population of the Planned Urbanizing Area was estimated to be 150,000, requiring approximately 150 acres of neighborhood parks and approximately 300 acres of community parks. The required minimum acreages would be met through the application of existing policies and regulations, including Government Code Section 66474, which require developers to pay parks capital facilities fees to fund the acquisition of appropriate parkland acreage.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones, thus resulting in additional population capacity and an increased demand for park services to meet the capacity. The proposed density changes would increase residential capacity within the City of Modesto by 21,837 housing units (8,530 units within city limits and 13,307 units outside city limits), resulting in a population capacity increase of approximately 65,511 people (based on an average household size of 3.0 persons per unit[1]).

The increase in population capacity would result in additional demand for parks and recreational facilities to maintain compliance with the City's parkland standards. According to the City of Modesto's established park standards, one (1) acre of parkland and open space is required for neighborhood parks per 1,000 people, and two (2) acres of parkland and open space are required for community parks per 1,000 people. Based on the increased population capacity of 65,511 people, the proposed project would necessitate:

- 65.51 acres of additional neighborhood parks (65,511 people /1,000 people x 1 acre).
- 131.02 acres of additional community parks (65,511 people /1,000 people x 2 acres).

In total, approximately 196.53 acres of new parkland and open space would be required to accommodate the population capacity increase and maintain compliance with the City's park standards.

[1] US Census Bureau, Decennial Census 2000, Table DP1 SF2; American Community Survey 5-Year Data 2010 and 2020, Table S1101

The UAGP, including the proposed amendments to the General Plan and Zoning Ordinance, does not propose or approve any development nor does it designate specific projects for new or expanded parks and recreational facilities.

The General Plan includes a range of policies and actions (listed below) to ensure that parks and recreational facilities are adequately funded, and that new development funds its fair share of services needed to meet General Plan objectives. New development is required to participate in the provision and expansion of public services, recreational amenities, and facilities, and is also required to demonstrate that the City's public services and facilities can accommodate the increased demand for said services and facilities associated with future projects during the entitlement process.

The UAGP does not propose or approve the construction or expansion of parks or recreational facilities. Any new or expanded parks or recreational facilities that may be constructed in the future would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the parks and recreational facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the UAGP. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. As discussed in Chapters 3.1 through 3.16 and 4.0, the General Plan includes policies and actions that are specifically designed to reduce or avoid environmental impacts of construction and development, which includes parks and recreational facilities. There are no additional significant impacts related to construction of parks and recreational facilities, consistent with the General Plan land use designation and Land Use Map, beyond the impacts that are analyzed throughout this EIR. Any future development under the UAGP would be required to comply with regulations, policies, and standards included in the General Plan, and would be reviewed for compliance with CEQA, including analysis of project-level impacts and mitigation measures as appropriate.

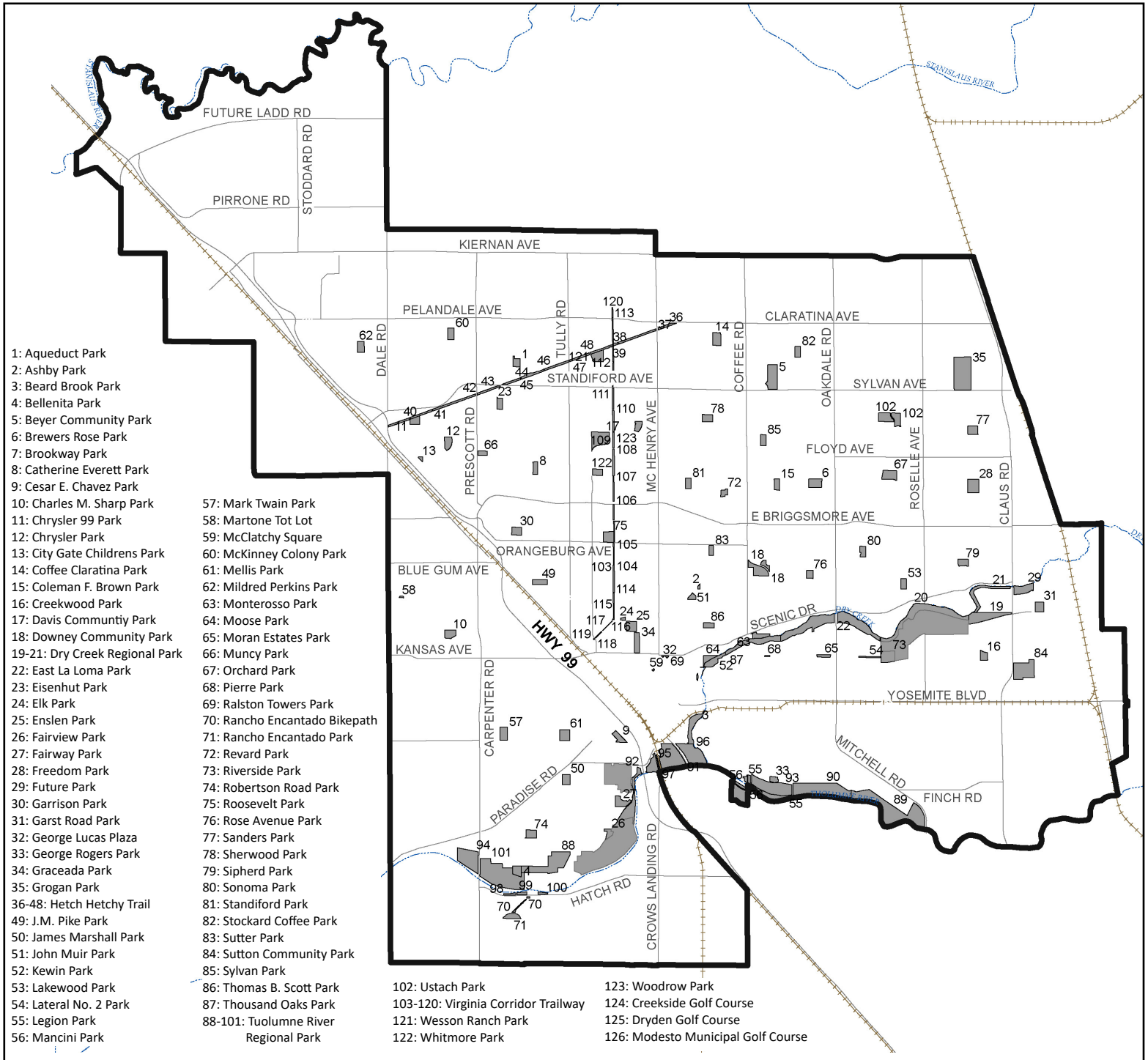
The policies of the General Plan (POS-2 through POS-42, listed above), would minimize direct impacts by requiring the provision of adequate parks and open space for new development. Assuming that the prescribed amount of parkland is developed within new growth areas per the applicable policies, impacts related to the provisions and need for park and recreational facilities are ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP provides the following goals and policies identified in Section A-4, above, related to recreation and parks:

1. General Open Space and Park Goals: POS-2 and POS-3.
2. Open Space and Parks Policies—Baseline Developed Area: POS-4 through POS-10.
3. Open Space and Parks Policies—Planned Urbanizing Area: POS-11 through POS-16.
4. Open Space Policies—Parks: POS-17 through POS-19.
5. Open Space Policies—River Greenway Program: POS-20 through POS-42.

This Page Intentionally Left Blank.



1: Aqueduct Park
2: Ashby Park
3: Beard Brook Park
4: Bellenita Park
5: Beyer Community Park
6: Brewers Rose Park
7: Brookway Park
8: Catherine Everett Park
9: Cesar E. Chavez Park
10: Charles M. Sharp Park
11: Chrysler 99 Park
12: Chrysler Park
13: City Gate Childrens Park
14: Coffee Claratina Park
15: Coleman F. Brown Park
16: Creekwood Park
17: Davis Communtiy Park
18: Downey Community Park
19-21: Dry Creek Regional Park
22: East La Loma Park
23: Eisenhut Park
24: Elk Park
25: Enslen Park
26: Fairview Park
27: Fairway Park
28: Freedom Park
29: Future Park
30: Garrison Park
31: Garst Road Park
32: George Lucas Plaza
33: George Rogers Park
34: Graceada Park
35: Grogan Park
36-48: Hetch Hetchy Trail
49: J.M. Pike Park
50: James Marshall Park
51: John Muir Park
52: Kewin Park
53: Lakewood Park
54: Lateral No. 2 Park
55: Legion Park
56: Mancini Park
57: Mark Twain Park
58: Martone Tot Lot
59: McClatchy Square
60: McKinney Colony Park
61: Mellis Park
62: Mildred Perkins Park
63: Monterosso Park
64: Moose Park
65: Moran Estates Park
66: Muncy Park
67: Orchard Park
68: Pierre Park
69: Ralston Towers Park
70: Rancho Encantado Bikepath
71: Rancho Encantado Park
72: Revard Park
73: Riverside Park
74: Robertson Road Park
75: Roosevelt Park
76: Rose Avenue Park
77: Sanders Park
78: Sherwood Park
79: Sipherd Park
80: Sonoma Park
81: Standiford Park
82: Stockard Coffee Park
83: Sutter Park
84: Sutton Community Park
85: Sylvan Park
86: Thomas B. Scott Park
87: Thousand Oaks Park
88-101: Tuolumne River Regional Park
102: Ustach Park
103-120: Virginia Corridor Trailway
121: Wesson Ranch Park
122: Whitmore Park
123: Woodrow Park
124: Creekside Golf Course
125: Dryden Golf Course
126: Modesto Municipal Golf Course

Sources: Modesto General Plan Figure VI-11-1; Stanislaus County GIS.

Map date: October 17, 2024.

CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 3.12-1.

EXISTING PARKS WITHIN THE CITY OF MODESTO

Legend

- General Plan Planning Area
- Park
- River
- Railroad

0 1 2 Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This Page Intentionally Left Blank.

This chapter describes the potential impacts to the multi-modal transportation system associated with the *City of Modesto Urban Area General Plan (UAGP)*. The impact analysis examines the vehicular, transit, bicycle, and pedestrian components of the City's transportation system. To provide context for the impact analysis, this chapter begins with a discussion of the environmental setting, which is a description of the existing physical and operational conditions for the transportation system. Following the setting is the regulatory framework influencing the transportation system and providing the basis for impact significance thresholds used in the impact analysis. The chapter concludes with the impact analysis findings and recommended mitigation measures. This analysis relies on the *Modesto General Plan Amendment Vehicle Miles Traveled (VMT) Traffic Study* prepared by Iteris, Inc. (the traffic consultant).

With the implementation of Senate Bill (SB) 743, local agencies may no longer rely on vehicular delay or capacity-based analyses for California Environmental Quality Act (CEQA) impact determination. Instead, agencies must analyze transportation impacts utilizing vehicle miles traveled (VMT), a measure of the total distance traveled by vehicles for trips beginning or ending in Modesto on a typical weekday. VMT impacts are calculated and assessed using an efficiency metric (e.g. VMT peer household for residential projects or per employee for commercial projects). This is a change from the prior method of analyzing transportation impacts, which measured level of service (LOS) at intersection and roadway segments, using grades from LOS A to LOS F.

There were no comments received during the NOP comment period related to this environmental topic.

3.13.1 ENVIRONMENTAL SETTING

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. This environmental setting is the baseline for determining whether an impact of the UAGP is significant. The General Plan addresses the overall planning and development of the circulation system for residents and visitors in a multi-modal framework. Transportation system components include the roadway network, public transportation system, bicycle and pedestrian system, and goods movement.

Modesto is the demographic and commercial hub of Stanislaus County. Regional roadway access to Modesto is provided by State Route (SR) 99, SR 108, SR 132, and SR 219. SR 99 runs north to south through the Central Valley from Red Bluff to Bakersfield. Through Stanislaus County, it is a freeway with access limited to interchanges. SR 132 is an east-west link between SR 49 and Interstate 580. SR 108 extends from Modesto across Sonora Pass to the eastern side of the Sierra Nevada (Sonora Pass is closed during winter because of snow). SR 132 and SR 108 are essentially arterial roadways within Modesto and have direct access to adjoining parcels. SR 219 runs east to west along Kiernan Avenue north of Modesto to connect SR 1-08 and SR 99.

ROADWAY SYSTEM

This section describes the physical characteristics of Modesto's existing roadway network.

Roadway Classifications

The City of Modesto categorizes the roadways that constitute its circulation network as freeways, expressways, arterial streets, collector streets, and local streets.

1. Freeways: These are intended for long-range interregional travel with access limited to specific interchanges.
2. Expressways: These are high-capacity travel corridors with limited access at half-mile to one-mile intervals depending on the expressway classification, with traffic signals at major intersections. City policy provides for the case-by-case consideration of more frequent access when there are demonstrable economic reasons, unusually restricted access, or a need for access to police and fire stations. In such situations, the individual carrying capacity, flow, and efficiency of the expressway.
3. Arterial Streets: these are intermediate capacity travel corridors primarily intended to serve major movements between different land uses or different parts of the city. Access to arterial streets is ideally limited to major traffic generators, intersections with expressways, and collector streets. Within the Baseline Developed Area, arterial streets also provide considerable direct access to abutting properties and local streets.
4. Collector Streets: These connect local streets with arterial streets. The preferred design is to limit their length to that necessary and to discourage their use for through or regional traffic. Collectors usually provide a high level of direct access to abutting properties.
5. Residential/Local Streets: These two-lane, low-volume streets have the exclusive function of providing access to abutting properties and connecting to higher-order roadways.

TRANSPORTATION SYSTEMS

Public Transportation

Modesto is served local and intercity bus service, intercity rail service, a bicycle circulation network, and scheduled air carrier service, in addition to the city's road system. Bus service included the Modesto Area Express (MAX), Modesto Dial-A-Ride, Stanislaus Regional Transit (StaRT), and Greyhound. Train service included Amtrak, Altamont Commuter Express (ACE), and Bay Area Rapid Transit (BART) connections. Air travel services are provided at the Modesto City-County Airport.

MAX provides daily, regularly scheduled, fixed-route public bus service within Modesto. Service generally is provided on arterial and collector roadways, with most routes connecting to downtown Modesto. There are two bus transfer facilities: one at Vintage Faire mall and the other in downtown Modesto. Buses are equipped with bicycle racks and wheelchair lifts. Evening service is limited. MAX also provides connecting service to Amtrak, ACE, and the Dublin / Pleasanton BART station. Modesto Dial-A-Ride provides door-to-door public transit on an on-call basis within Modesto for elderly and disabled individuals. It also provides evening and Sunday service to the general public. StaRT

provides intercity, fixed- route bus service Monday through Saturday between Modesto and Turlock, Riverbank, Oakdale, Gustine, Newman, Westley, and Patterson. StaRT also provides "runabout" service that combines designated time points and curb-to-curb service to the general public, and a dial-a-ride service. Greyhound provides intercity bus service to points throughout the state and nation. The Greyhound bus station is located at 1001 9th Street in downtown Modesto.

Amtrak provides intercity passenger rail service from Modesto to the Bay Area, Sacramento, Los Angeles, and points beyond. Amtrak operates seven "San Joaquin" trains daily, offering round-trip travel between Sacramento and Los Angeles from the station located on the eastern edge of Modesto at 1700 Held Drive. MAX offers daily scheduled bus service to the station. ACE operates four daily heavy rail commuter trains from Stockton to San Jose, with Central Valley stops in Lathrop / Manteca and Tracy. MAX provides three morning and four evening direct buses between the Vintage Faire Mall park-and-ride and the Lathrop ACE station.

MAX also runs two buses from the Downtown Transportation Center to the Dublin / Pleasanton BART station each morning and evening. Modesto is served by the Union Pacific and Burlington Northern Railroads, which have main lines passing through Modesto. These railroads provide freight service to the San Joaquin Valley and beyond.

Active Transportation

Modesto has four types of improved bikeways: Class I, Class II, Class III and Class IV. Class I bikeways are paved paths that are separated from city streets. No motor vehicles are allowed on Class I bikeways. Class II bikeways are striped lanes on major city streets. Class III bikeways are on-street routes identified by "bicycle route" signs. Class IV facilities are one-way or two-way dedicated bicycle facilities physically separated from vehicle travel lanes.

Modesto City-County Airport

The Modesto City-County Airport is a general aviation airport owned jointly by the City and the County, and operated by the City. The airport has two runways: a 5,911-foot air carrier runway and a 3,459-foot general aviation runway. The Modesto City-County Airport is the base for approximately 190 general aviation aircraft, including corporate jets. Airport services include a passenger terminal and parking, hangars, aircraft fueling and maintenance, aircraft charters, and flying schools. Commercial air service was discontinued. Three car rental agencies operate at the airport.

VEHICLE MILES TRAVELED (VMT) STUDY

VMT Results

Table 13.4-1 summarizes the VMT per service population and per capita results calculated from the Stanislaus Council of Governments (StanCOG) model for the 2019 base year, 2046 No Project, 2046 With Project, and 2046 With Project plus Employment Growth scenarios. The table shows the VMT per capita and the VMT per service population with Project and With Project plus Employment

Growth are expected to decrease compared to 2019 and 2046 No Project within the City and the Planning Area.

In the With Project scenario, the VMT per capita reduces by 10 percent compared to the No Project, while the VMT per services population decreases by 5 percent. In the sensitivity test with additional employment, both the VMT per capita and VMT per service population reduced by 4 percent, compared to the No Project. This indicates then the General Plan Amendment associated with the updated Housing element is an improvement over the current General Plan in terms of VMT efficiency.

TABLE 3.13-1: VMT SUMMARY

SCENARIO	*CITY ONLY*		*TOTAL PLANNING AREA*	
	VMT/CAPITA	*VMT/SERVICE POPULATION*	*VMT/CAPITA*	*VMT/SERVICE POPULATION*
2019 Baseline	14.1	10.2	14.6	10.3
2046 No Project	14.1	10.0	14.6	10.1
2046 With Project	13.0	9.7	13.1	9.6
2046 With Project plus Employment Growth	13.9	9.8	14.0	9.7
CHANGE IN VMT				
2046 With Project vs. 2019	-1.1	-0.6	-1.5	-0.7
2046 With Project vs. 2046 No Project	-1.0	-0.4	-1.5	-0.5
2046 With Project plus Employment Growth vs. 2019	-0.2	-0.4	-0.6	-0.6
2046 With Project plus Employment Growth vs. 2046 No Project	-0.1	-0.2	-0.6	-0.4
% CHANGE IN VMT				
2046 With Project vs. 2019	-8%	-5%	-10%	-7%
2046 With Project vs. 2046 No Project	-7%	-4%	-10%	-5%
2046 With Project plus Employment Growth vs. 2019	-1%	-4%	-4%	-6%
2046 With Project plus Employment Growth vs. 2046 No Project	-1%	-2%	-4%	-4%

SOURCE: ITERIS, INC. MODESTO GENERAL PLAN AMENDMENT VMT STUDY, 2024.

Table 13.4-2 shows the daily VMT summary for each scenario with the corresponding socioeconomic data. While adding new residential units and employment increases total VMT the relative metric of VMT per Service population decreases with population and employment growth when compared with 2019 Baseline and 2046 No Project VMT.

TABLE 3.13-2: CITY OF MODESTO + PLANNING AREA DAILY VMT AND SOCIOECONOMIC DATA

PRODUCT TYPE	*2019*	*2046 NO PROJECT*	*2046 WITH PROJECT*	*2046 WITH PROJECT PLUS EMPLOYMENT GROWTH*
Households	67,211	110,488	132,325	132,325
Population	265,178	318,592	382,284	382,284
Employment	110,812	140,304	140,304	167,861
Daily VMT	3,876,179	4,644,830	5,008,905	5,356,318
Daily VMT per Household	57.7	42.0	37.9	40.5
Daily VMT per Service Population	10.3	10.1	9.6	9.7

SOURCE: ITERIS, INC. MODESTO GENERAL PLAN AMENDMENT VMT STUDY, 2024.

3.13.2 REGULATORY SETTING

The General Plan, along with a variety of City, regional, State, and Federal plans, legislation, and policy directives provide guidelines for the safe operation of streets and transportation facilities in Modesto. While the City has primary responsibility for the maintenance and operation of local transportation facilities in its jurisdiction, Modesto staff works on a continual basis with responsible regional, State, and Federal agencies including County of Stanislaus, the Stanislaus Council of Governments, the California Department of Transportation (Caltrans), the Federal Highway Administration, and others to maintain, improve, and balance the competing transportation needs of the community and the region.

FEDERAL

Americans With Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency. To implement this goal, the United States Access Board has created accessibility guidelines for public rights-of-way. The guidelines address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

STATE

OPR General Plan Guidelines

The Governor's Office of Planning and Research (OPR) publishes General Plan Guidelines for cities and counties developing their general plans. OPR released its updated guidelines in 2017, which includes legislative changes, new guidance, policy recommendations, external links to resource documents, and additional resources. For each general plan element, the guidelines discuss statutory requirements in detail, provide recommended policy language, and include examples of city and county general plans that have adopted similar policies.

Assembly Bill 32, Senate Bill 32, and Senate Bill 375

Assembly Bill (AB) 32, also known as the Global Warming Solutions Act of 2006, committed California to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. In 2016, Senate Bill (SB) 32 added a new target: reducing statewide emissions to 40 percent below 1990 levels by 2030.

SB 375 provides guidance for curbing emissions from cars and light trucks to help California comply with AB 32. There are five major components to SB 375:

- ARB will guide the adoption of GHG emission targets to be met by each Metropolitan Planning Organization (MPO) in the state. The MPO for Modesto is StanCOG.
- MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting these regional targets. The SCS must be consistent with the Regional Transportation Plan (RTP).
- Regional housing elements and transportation plans must be synchronized on eight-year schedules. Also, the SCS and Regional Housing Needs Assessment (RHNA) must be consistent with each other.
- CEQA is streamlined for preferred development types such as mixed-use projects and transit-oriented developments (TODs) if they meet specific requirements.
- MPOs must use transportation and air emission modeling methodologies consistent with California Transportation Commission (CTC) guidelines.

Senate Bill 743

SB 743, passed in 2013, resulted in several statewide CEQA changes. It required the California Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metrics beyond TPAs. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. This legislation also established that aesthetic and parking effects of a residential, mixed-use residential, or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised CEQA Guidelines that implement this legislation became effective on December 28, 2018, and state that vehicle LOS and similar measures related to delay shall not be used as the sole basis for determining the significance of transportation impacts for land use projects, and that as of July 1, 2020, this requirement shall apply statewide, but that until that date, lead agencies may elect to rely on VMT rather than LOS to analyze transportation impacts.

The OPR "Technical Advisory on Evaluating Transportation Impacts in CEQA", dated December 2018, also known as the SB 743 Memorandum, includes specifications for VMT methodology and recommendations for significance thresholds, screening of project that may be presumed to have less than significant impacts, and mitigation.

Screening criteria include:

- **Small projects:** The Technical Advisory concludes that, absent any information to the contrary, projects that generate 110 trips per day or less may be assumed to cause a less-than-significant transportation.
- **Projects near transit stations:** Projects located within ½ mile of an "existing major transit stop" or an "existing stop along a high-quality transit corridor" would have a less-than-significant impact on VMT.
- **Affordable residential development:** Projects consisting of a high percentage of affordable housing may be assumed to cause a less-than-significant transportation impact on VMT because they may improve jobs-housing balance and/or otherwise generate less VMT than market-based units.
- **Redevelopment projects:** If a proposed redevelopment project leads to a net overall decrease in VMT (when compared against the VMT of the existing land uses), the project would lead to a less-than-significant transportation impact.
- **Local-serving retail:** Trip lengths may be shortened and VMT reduced by adding "local-serving" retail opportunities that improve retail destination proximity. Page 17 of the Technical Advisory generally describes retail development including stores less than 50,000 square feet as local-serving. In May 2020, OPR staff indicated during online webinars that any retail building that is 50,000 square feet or less may be considered local-serving.

Other key guidance includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis. Specifically, OPR recommends VMT per capita for residential projects and VMT per employee for office projects.
- OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold (page 10). In other words, an office project that generates VMT per employee that is more than 85 percent of the regional VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the State's emissions goals (pages 10-11).
- For retail projects, OPR recommends measuring the net decrease or increase in VMT in the planning area with and without the project. The recommended impact threshold is any increase in total VMT.
- Lead agencies ultimately have the discretion to set or apply their own significance thresholds, provided they are based on significant evidence.
- Cities and counties still have the ability to use measures of delay such as LOS for other plans, studies, or network monitoring. However, according to CEQA section 15064.3, Determining the Significance of Transportation Impacts, "effect on automobile delay shall not constitute a significant environmental impact."

California Air Resources Board Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals

ARB has specific guidance for VMT thresholds in the ARV 2017 "Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals" (January 2019). This document provides recommendations for VMT reduction thresholds that would be necessary to achieve the state's GHG reduction goals and acknowledges that the SCS targets alone are not sufficient to meet climate goals. ARB concluded that a 14.3-percent reduction in total VMT per capita and a 16.8 percent reduction in light-duty VMT per capita (over current conditions; 2015-2018) was needed to meet these goals. The Modesto travel forecasting model is trip-based and includes all vehicle trips, thus the total VMT per capita metric is applicable. Additionally, the OPR "Technical Advisory" cites this document as support for the 15-percent reduction threshold.

Assembly Bill 417

In October 2013, AB 417 created a statutory CEQA exemption for bicycle plans in urbanized areas. Before the passage of this bill, cities and counties that prepared bicycle plans were required to carry out a CEQA review. AB 417 exempts the following types of bicycle projects in an urbanized area:

- Restriping of streets and highways
- Bicycle parking and storage
- Signal timing to improve intersection operations
- Signage for bicycles, pedestrians, and vehicles

However, not all bicycle plans are exempt if certain conditions are met (e.g., a new Class I bicycle trail through a sensitive natural area).

California Department of Transportation (Caltrans)

Caltrans is responsible for the planning, design, construction, and maintenance of all interstate freeways and State routes, setting design standards for State roadways that local governments may use. Caltrans requirements for traffic impact studies are outlined in their Guide for the Preparation of Traffic Impact Studies, focusing on the review of impacts on State highway facilities such as freeway segments, on- and off-ramps, and signalized intersections.

CALTRANS VEHICLE MILES TRAVELED-FOCUSED TRANSPORTATION IMPACT STUDY GUIDE

The Caltrans "Vehicle Miles Traveled-Focused Transportation Impact Study Guide" (TISG), dated May 20, 2020, was prepared to provide guidance to Caltrans districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans' review of VMT impact analysis for land use projects and land use plans. Caltrans seeks to reduce single occupancy vehicle trips, provide a safe transportation system, reduce per capita VMT, increase accessibility to destinations via cycling, walking, carpooling, and transit, and reduce greenhouse gas (GHG) emissions. The TISG notes that, for land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA. Caltrans' primary review focus for a land use project's transportation impacts is now VMT. The TISG generally endorses the OPR "Technical Advisory,"

including the thresholds in that document. Caltrans may review VMT thresholds, methodology, and mitigations.

CALTRANS INTERIM LAND DEVELOPMENT AND INTERGOVERNMENTAL REVIEW (LDIGR) SAFETY REVIEW PRACTITIONERS GUIDANCE

The Interim LDIGR Safety Review Practitioners Guidance (July 2020) was developed to provide immediate direction about the safety review while final guidance is being developed. This interim guidance does not establish thresholds of significance for determining safety impacts under CEQA. The guidance notes that the significance of impacts should be determined with careful judgment on the part of a public agency and based, to the greatest extent possible, on scientific and factual data consistent with Caltrans' CEQA guidance contained in Caltrans' Standard Environmental Reference. The guidance notes that District traffic safety staff will use available data to determine if the proposed project may influence or contribute to locations identified by traffic safety Investigations generated by network screening or initiated by the district.

CALTRANS DEPUTY DIRECTIVE 64-R1: COMPLETE STREETS – INTEGRATING THE TRANSPORTATION SYSTEM AND ASSEMBLY BILL 1358: COMPLETE STREETS ACT OF 2008

In 2001, Caltrans adopted Deputy Directive (DD) 64, a policy directive related to non-motorized travel throughout the state. In October 2008, DD 64 was strengthened to reflect changing priorities and challenges. DD 64-R1 states:

> *The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.*
>
> *The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating "complete streets" beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of "complete streets" requires collaboration among all Department functional units and stakeholders to establish effective partnerships.*

Providing safe mobility for all users, including motorists, bicyclists, pedestrians, and transit riders, contributes to the Department's vision: "Improving Mobility Across California."

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Economically, complete streets can help revitalize communities, and they can give families the option to lower transportation costs by using transit, walking, or bicycling rather than driving to reach their destinations. The Department is actively engaged in implementing its complete streets policy in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System.

In 2008, the State of California enacted Assembly Bill 1358, the Complete Streets Act of 2008. This law requires cities and counties, when updating their general plans, to ensure that local streets and roads meet the needs of all users, including bicyclists, pedestrians, transit riders, children, seniors, persons with disabilities and motorists. The law took effect in January 2011, when the OPR issued new proposed General Plan guidelines that reflect Complete Streets planning principles. As described by OPR, complete streets should be designed and constructed to serve all users of streets, roads, and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or taking transit.

CALTRANS DIRECTOR'S POLICY 22 (DP-22), DIRECTOR'S POLICY ON CONTEXT SENSITIVE SOLUTIONS

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all state highways, was adopted by Caltrans in November of 2001. The policy reads:

> *The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.*
>
> *The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.*

The policy recognizes that "in towns and cities across California, the State highway may be the only through street or may function as a local street," that "these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods," and that "communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality." The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

REGIONAL

Stanislaus Council of Governments (StanCOG)

The Stanislaus Council of Governments (StanCOG) is responsible for planning and allocating federal, state, and regional funding for transportation projects. Modesto uses locally-collected Capital Improvement Program funds and other local funds to match against state and federal transportation funds administered by StanCOG. StanCOG's Regional Transportation Program (RTP) is a funding plan for transportation investments.

The 2014 StanCOG Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) focuses on creating a more sustainable transportation system and land use development pattern, and includes transportation projects such as highway and road construction, airports, alternative fuel vehicle acquisition, public transit, and bicycle paths (Stanislaus Council of Governments 2014). The RTP identifies a number of improvements within Modesto, including; widening SR 132 to expressway width from SR 99 to west of Dakota Avenue; widening SR 99 from Kiernan Avenue to SR 132; reconstructing the Pelandale Avenue/SR 99 interchange in north Modesto (under construction as of September 2016, with completion expected in early 2017); and widening of several roadways including portions of Oakdale Road, Roselle Avenue, Dale Road, Crows Landing Road and Claratina Avenue.

In addition to the RTP/SCS and RTIP discussed above, state law requires StanCOG to prepare a congestion management program (CMP) that establishes LOS performance standards for state highways and principal arterials within the county. A CMP must contain the following components: an element defining the affected transportation system and LOS, a performance element evaluating the system's performance across several transportation modes, a travel demand element, a program for analyzing the impact of land use decisions, and a seven-year capital improvement program. In addition, under CMP law, local jurisdictions are required to prepare and implement a deficiency plan when congestion on a roadway segment exceeds the adopted LOS standard. The deficiency plan must identify the cause of the deficiency, improvements needed to cure the deficiency, and an action plan for implementing those solutions.

Implementation of the CMP makes the County eligible to receive increased gasoline and diesel sales tax funds from the state.

StanCOG prepared a CMP in 2009. The CMP document identifies a number of existing and projected roadway deficiencies which were incorporated into the RTP/SCS. The RTP/SCS contains a variety of general goals and policies that may relate to Modesto under given circumstances. These are provided below.

TC-1: Goal 1. Mobility and Accessibility: Improve the ability of people and goods to move between desired locations; and, provide a variety of transportation choices.

Objective 1A: Apply new technologies to make travel more reliable, convenient, and accessible for all modes.

Objective 1B: Implement the projects identified in the 2013 StanCOG Non-Motorized Transportation Plan to ensure a workable network of alternative modes of transportation in the system.

Objective 1C: Integrate the regional expressway study into the 2014 RTP/SCS and local general plans.

Objective 1D: Implement complete streets projects to improve roadways impact of quality of life throughout the region and provide greater transportation choices.

Objective 1E: Expand transportation mode choice for all residents and visitors.

TC-2: Goal 2. Social Equity: Promote and provide equitable opportunities to access transportation services for all populations and ensure all populations share in the benefits of transportation improvements and provide a range of transportation and housing choices.

Objective 2A: Provide an equitable level of transportation for all modes for all users.

TC-3: Goal 3. Economic and Community Vitality: Foster job creation in agricultural and non-agricultural sectors, and encourage business attraction, retention, and expansion by improving quality of life through new and revitalized communities.

Objective 3A: Improve the movement of goods in the region by supporting the enhancement of goods by land (including rail) and air.

TC-4: Goal 4. Sustainable Development Pattern: Provide mixed land uses and compact development patterns, and direct development toward existing infrastructure to preserve agricultural land, open space, and natural resources.

Objective 4A: Preserve farmland and natural resources by integrating land use and transportation planning.

TC-5: Goal 5. Environmental Quality: Consider the environmental impacts when making transportation investments and minimize direct and indirect impacts on clear air and the environment.

Objective 5A: Lower overall vehicle miles traveled, reduce greenhouse gas emissions, and improve overall air quality.

TC-6: Goal 6. Health & Safety: Operate and maintain the transportation system to ensure public safety and security; and improve the health of residents by improving air quality and providing more transportation options.

Objective 6A: Maximize safety and comfort for transit users.

Objective 6b: Promote non-motorized modes of transportation to help encourage healthy travel.

TC-7: Goal 7. System Preservation: Maintain the transportation system in a state of good repair, and protect the region's transportation investments by maximizing the use of existing facilities.

Objective 7A: Protect the region's investment by preserving the condition of the existing transportation system.

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has adopted a transportation control measure (TCM) plan intended to reduce vehicle trips, vehicles miles traveled, vehicle idling, and traffic congestion. This is an attempt by the SJVAPCD to address mobile-source emissions. The TCMs include programs for improved public transit, employer-based transportation management plans,

traffic flow improvement programs that achieve emissions reductions, and programs to limit or restrict vehicle use in downtown areas (San Joaquin Valley Air Pollution Control District 2005). With the continued non-attainment status for a number of pollutants, tighter controls over mobile emissions will be needed if the air pollution control district is to reduce smog levels to acceptable standards.

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

Stanislaus County Policies

The County updated the Circulation Element of its county-wide general plan in 2016. The Circulation Element of the *Stanislaus County General Plan* (County General Plan) identifies the goals, policies, and implementation measures that ensure compatibility between planned land use, infrastructure, and transportation modes. The Circulation Element establishes policies applicable to unincorporated areas of the county. These relate to Modesto in that the City and County jurisdictions share common roads, and County policies in areas adjoining the city may affect city traffic patterns. The City and County may need to coordinate their policies in these areas.

Roadways within the unincorporated County are classified as follows:

a. Interstate Freeway: These are interregional roadways, with access restricted to interchanges at primary arterials. Access to interstate freeways is typically at a minimum of two-mile spacing.
b. Freeways and Expressways: Freeways and expressways provide for through- traffic movement, with no direct access to abutting property. Access is provided by interchanges.
c. Principal Arterials: The function of a principal arterial is to move high volumes of people and goods between urban areas within the county at higher speeds, while still providing access to abutting properties as permitted by the standards for each principal arterial class. On-street parking is not permitted, although bicycle and pedestrian facilities may be provided. Farm equipment is permitted.
d. Minor Arterials: The function of a minor arterial is to carry moderate- to high- volume traffic to and from collectors to other minor arterials, principal arterials, expressways, and freeways with a secondary function of land access.

e. Major Collectors: These roadways serve a dual function by providing both land access and mobility for medium-length trips. Collectors serve as transition facilities, providing a connection between lower and higher level roadways.
f. Minor Collectors: These roadways serve a dual function by providing both land access and mobility for medium-length trips. Collectors serve as transition facilities, providing a connection between lower and higher level roadways. Rights-of-way for minor collectors are typically less than major collectors.
g. Rural Local: Rural local roadways serve as land access facilities in the agricultural areas of the County by providing direct access to abutting property and movement of small volumes of people and goods for medium length trips.
h. Urban Local: Urban Local roadways serve as land access facilities in the urban and industrial areas of the County by providing direct access to abutting property and movement of small volumes of people and goods for short trips.
i. Private: This classification includes agricultural access easements and is included primarily to conform to state-mandated standards for private access roads in the state responsibility area as designated by the California Department of Forestry and Fire Protection. The County does not maintain private roadways.

STANISLAUS COUNTY POLICIES

TC-8: As a matter of policy, Stanislaus County strives to maintain LOS D or better on all roadways (daily LOS) and LOS C or better at all intersections (peak hour LOS). (County General Plan, Circulation Element)

TC-9: The Circulation system shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system.

Implementations Measures

1. The County shall maintain LOS D or better for all County roadways (DAILY LOS) and LOS C or better at intersections (Peak Hour LOS), except within the sphere of influence of a city that has adopted a lower level of service standard, the city standard shall apply. The County may allow either a higher or lower level of service standard for roadways and intersections within urban areas such as Community Plan areas, but in no case shall the adopted LOS fall below LOS D.
2. The County will annually review and update its transportation funding mechanisms and, as necessary, adjust its traffic impact fee to ensure that adequate funds are collected from local, State, and federal sources to implement improvements required to maintain the County's level of service standard on all County roadways.
3. The County will work with StanCOG and the cities to monitor the performance of the County's circulation system and implement improvements as required by the State-mandated Congestion Management System.
4. The County will work with StanCOG and the cities to identify and secure funding for improvements to the regional and local circulation system.
5. The County shall evaluate the circulation system and recommend amendments a minimum of once every five years.

6. The County will work with staff of the nine cities, StanCOG and Caltrans to establish more coordinated standards and routes for Expressways, Principal & Minor Arterials, and Major & Minor Collectors that cross jurisdictional lines.
7. Within the spheres of influence of any city, roadway improvements, dedications, building setbacks and road reservations shall meet the development standards of the city consistent with the Spheres of Influence Policy in the Land Use Element of the General Plan, except in those areas subject to an individual city/county agreement.
8. Private roadways in areas of the County protected by the California Department of Forestry and Fire Protection shall be designed consistent with the standards of that agency, the local fire protection district and the Department of Public Works.
9. Street and road standards proposed in any new development that differ from those established in the latest County's Standards and Specifications shall be approved by the Department of Public Works, and shall comply with nationally recognized standards.
10. Traffic control devices (e.g., traffic signals, roundabouts), traffic calming, and other transportation system management techniques shall be utilized to control the flow of traffic, improve traffic safety, and minimize delays.
11. On-site circulation among adjacent parcels shall include shared driveways and reciprocal access easements to limit the number of egress points onto a public road.
12. Development shall be designed to provide open street patterns, with multiple points of ingress and egress, to facilitate emergency response, to minimize traffic congestion, and to facilitate use by diverse modes of transportation.
13. Promote the transformation of major transportation corridors into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating wide sidewalks to accommodate pedestrian traffic; amenities and landscaping; on-street parking between sidewalks and travel lanes; enhanced pedestrian street crossings; buildings located at the back of sidewalk; building entrances oriented to the street; transparent ground floor frontage; street trees and furnishings; and pedestrian-scale lighting and signage.
14. A strategy plan should be prepared that includes the identification of areas and/or projects to which new multi-modal transportation guidelines shall apply. New guidelines shall identify strategies for creating communities that increase the convenience, safety and comfort of people using bicycle, pedestrian and public transit facilities. Existing policies and standards, such as landscaping, parking, and building setback requirements, may require variations on a case by case basis, specifically in Central Business Districts. (County General Plan, Circulation Element)

TC-10: The County shall strive to reduce motor vehicle emissions and vehicle miles traveled (VMT) by encouraging the use of alternatives to single occupant vehicle.

Implementation Measures

1. The use of alternative modes of transportation will continue to be encouraged by participating in programs to promote walking, bicycling, ridesharing, and transit use for commuting and recreation.
2. The County will continue to work with StanCOG, Caltrans, and the cities to identify and secure funding for the development and improvement of bikeways, pedestrian

pathways, park-and-ride facilities, transit systems, and other alternatives to the single-occupant vehicles.

3. Facilities to support the use of, and transfer between, alternative modes of transportation (i.e., pedestrian, rideshare, bicycle, bus, rail and aviation) shall be provided in new development.
4. The County will continue to work with the Stanislaus Council of Governments and the San Joaquin Valley Air Pollution Control District to develop and implement transportation control measures to improve air quality through reduction in vehicle trips and vehicle miles of travel.
5. Developers will construct or pay the cost of new pedestrian pathways, bikeways, rideshare facilities, transit amenities, and other improvements necessary to serve the development and to mitigate impacts to the existing circulation system caused by the development.
6. The County shall continue using Compressed Natural Gas (CNG) or another alternative energy source in its fleet vehicles and will pursue special grants and funding sources to offset the costs of continued- use of CNG in County-owned buses. (County General Plan, Circulation Element)

TC-11: Bikeways and pedestrian paths shall be designed to provide safe and reasonable access from residential areas to major bicycle and pedestrian traffic destinations such as schools, recreation and transportation facilities, centers of employment, and shopping areas.

Implementation Measures

1. Bikeways shall be considered and implemented in accordance with the StanCOG Non-Motorized Transportation Plan and adopted Community Plans or Specific Plans when constructing or improving the roadway system in the unincorporated area outside the spheres of influence of the cities.
2. Within the sphere of influence of a city, bikeways and pedestrian facilities and amenities shall be provided in accordance with the applicable city's general plan and development standards.
3. Facilities to safely move, and support the use of, bicycles, pedestrians, transit and ridesharing shall be considered and implemented in all new development and roadway construction.
4. Class I bicycle and multi-use paths shall be considered to provide connectivity between major origins-destinations or to major recreational areas when on-road provisions for bicycle traffic cannot be accommodated or no alternative roadway alignment provides adequate connectivity.
5. To safely accommodate bicycle traffic, adequate pavement shoulder and/or striping shall be planned and implemented when constructing new roadways or implementing major rehabilitation projects.
6. Whenever a roadway is resurfaced or restored, adequate pavement shoulder and/or striping will be considered to safely accommodate bicycle travel ... where adequate right-of-way exists.

7. Federal funds, special grants, and other sources of funding shall be pursued for the development and improvement of bikeways and pedestrian pathways. (County General Plan, Circulation Element)

TC-12: Promote public transit as a viable transportation choice.

Implementation Measures:

1. Continue to operate existing transit systems and coordinate with other County transit operators to provide public transit serving Stanislaus County.
2. The County shall continue to work with StanCOG to seek funding to market and promote rideshare programs and where possible, encourage all County employees to use public transit to commute to work.
3. Ensure that provisions are made in proposed development for access to current and future public transit services. In particular, continuous segments of walls or fences should not impede pedestrian access to Expressways, Principal and Minor Arterials, and Major and Minor Collectors with transit service.
4. Where appropriate, new development projects shall promote the coordination and continuity of all transportation modes and facilities, including park and ride facilities at major activity centers.
5. Where appropriate, new development projects shall include bus turnouts and site improvements associated with bus stop accessibility for persons with disabilities, including curb cuts for wheelchair access. Where feasible, developments should be encouraged along established or proposed transit routes. The costs associated with site improvements shall be paid by the developer.
6. Where possible, coordinate public transportation with land use planning, transportation planning and air quality policies such that transit investments are complementary to land use planning and air quality policies.
7. Financing mechanisms shall be investigated to recover the cost of providing transit service and infrastructure to support new development.
8. The County shall encourage infill development of vacant parcels and redevelopment projects that will align with and improve the overall effectiveness of the public transit system.
9. Increase transit use through higher-frequency service of at least 15- minute headways in downtown areas and along major transportation corridors. Transit and land use will be interconnected to support increased ridership. (County General Plan, Circulation Element)

TC-13: The Airport Land Use Commission Plan and County Airport Regulations shall be updated as necessary, maintained and enforced. (County General Plan, Circulation Element).

LOCAL

City of Modesto Urban Area General Plan

The purpose of Modesto's transportation system is to move people and goods safely, conveniently, and efficiently. The system should provide transportation choices that are safe, reliable, effective, and economical for all users to decrease household transportation costs, improve air quality, reduce greenhouse gas emissions, and promote public health.

POLICIES RELATING TO STREET DESIGNATIONS

The following describes policies related to general street designations.

TC-14: **Roadway Facilities.** There are seven major roadway facility types in Modesto as shown on the UAGP Circulation diagram and listed below. (UAGP Policy V-H.1)

Freeway. This classification defines the highest volume, total access-control highways with high design speeds (55-65 mph).

State Highway. This classification applies to streets that are acquired, laid-out, constructed, improved, or maintained as a state highway pursuant to constitutional or legislative authorization. This facility type can be designated a freeway, expressway, arterial, or other roadway classification,

Expressway. The purpose of an expressway is to facilitate automobile and transit trips across town rapidly.

Arterial Street. Arterials allow movement of people by all modes and provide safe and convenient access to businesses for people using any travel mode. Arterial streets may be classified either as principal or minor arterials. A principal arterial typically has six lanes, while a minor arterial has four lanes. All arterials should have on-street bicycle facilities. Driveway access from fronting properties should be designed according to the City's Standard Specifications.

Collector Street. Collectors are primarily lined with residential development and serve a function similar to that of local streets, but with higher traffic volumes. Collector streets serve pedestrian and bicycle traffic, as well as automobiles and sometimes transit. Collectors may be classified either as "major" or "minor;" a major collector typically has four lanes, while a minor collector has two lanes. Driveway access from fronting properties should be designed according to the City's Standard Specifications.

Local Street. The primary purpose of local streets is to connect people to their neighbors and neighborhood. Cars are not excluded, but they are not the focus of transportation. Driveway access from fronting properties should be designed according to the City's Standard Specifications.

Downtown Street. All downtown streets are designated as collectors, and downtown collector streets function differently from collector streets in other parts of the city. All

downtown streets are constrained and will not be widened except as noted in Policy V.A.8. Certain downtown streets are expected to carry through traffic. These include:

- D Street (State Route 132)
- G and H Streets
- K and L Streets (State Route 108)
- 9th Street (State Route 132)
- Paradise Road

TC-15: **Expressways.** This classification defines high-volume, access- controlled roadways. Street Details in the City of Modesto's *Standard Specifications* illustrate the intersection cross-section requirements for expressway intersections with arterial and collector streets.

This General Plan provides for a system of expressways throughout the City. The City will continue to include these expressways in its Circulation and Transportation plan and to implement them in cooperation with the development community according to applicable design standards.

1. Regulate and limit the number and design of expressway access locations in order to ensure the overall operational viability of expressways in the community.
2. Any consideration of access to expressways is contingent on the ability of an applicant to provide a properly designed solution consistent with the adopted City standard specifications for access to expressways. The City Engineer may approve variations and deviations from adopted standard specifications pursuant to Section 7-1.701(I)(2) of the Municipal Code.
3. Any access to expressways from private parcels will be at the sole expense of the property owner, including any reconstruction of the expressway that may be necessitated.
4. The City may allow expressway access to non-residential uses on a case-by-case basis per the following criteria:

   When an applicant demonstrates to the City Council's satisfaction that economic purposes are clearly restricted by denial of access to a particular parcel, and when the applicant demonstrates to the City Council's satisfaction that there are either no or only highly restrictive alternative access solutions available to a particular parcel under consideration; or,

   For infill site developments, when an applicant demonstrates to the City Council's satisfaction that the economic benefits derived from development of the remnant parcel override the need to limit access to that parcel; or,

   It is recognized that City of Modesto emergency facilities, such as police and fire stations, will be located from time to time on expressways and, further, that direct access is desirable. In these cases, direct access is allowed subject to approval by the City Engineer. Design of such access should have City Council approval prior to implementation.

5. The City has adopted access management policies that include design standards for expressway access (General Plan Amendment 2001-02, August 28, 2001, modified by General Plan Amendment 2010-01). The purpose of the guidelines and design standards is to provide safe ingress and egress to adjacent parcels while at the same time not degrading the carrying capacity, flow, and efficiency of the expressway. (UAGP Policy V-H.15)

CIRCULATION AND TRANSPORTATION POLICIES - OVERALL

The Citywide Transportation goal is to provide meaningful transportation choices, increase non-automobile mode share and facilitate the provision of complete streets. This will be accomplished through the provision of transportation choices that are safe, reliable, effective, and economical for all users with the goal to decrease household transportation costs, improve air quality, reduce greenhouse gas emissions, and promote public health. The transportation system will be robustly multi-modal, recognizing that adding capacity for automobiles is often the least cost-effective improvement. The following policies are aimed to achieve this goal.

TC-17: Gap Closures: Identify gaps in the pedestrian and bicycle transportation systems and plan facilities to close those gaps. (UAGP Policy V.A.1)

TC-18: Encourage Pedestrians and Bicycle Use. Streets, pedestrian paths, and bike paths contribute to a system of fully-connected routes to all destinations. Their designs encourage pedestrian and bicycle use when small and spatially defined by buildings, trees, and lighting, and when high-speed traffic is discouraged. (UAGP Policy V.A.2)

TC-19: Transportation Improvement Program. Prepare and maintain a citywide transportation improvement program for all modes of travel, considering the development context when selecting which improvements should be included in the Capital Improvement Program. (UAGP Policy V.A.3)

TC-20: Capital Facilities Fee Program. Update and maintain a Capital Facilities Fee program to contribute to multi-modal transportation improvement projects of local and regional significance. (UAGP Policy V.A.4)

TC-21: Mediating Mode Conflicts. In the case of conflict between motorized and non-motorized transportation modes, roadway or right-of-way features may be added or altered to protect pedestrians and bicyclists, consistent with Urban Area General Plan goals. (UAGP Policy V.A.5)

TC-22: Level of Service and Mitigating Travel Demand. Over time, improve both the Level of Service and Quality of Service (see Tables V-1 and V- 2, respectively) for all transportation modes (vehicle, transit, bicycle and pedestrian) on City roadways consistent with the financial resources reasonably available to the City and without unreasonably burdening property owners or developers. On roadways where the automobile LOS is expected to be level F, consider mitigation measures other than road widening, such as the addition of bicycle lanes, improved pedestrian access, improved transit service, and the establishment of

walkable development patterns to improve the quality of service for all travel modes. (UAGP Policy V.A.6)

TC-23: Complete Streets. Where traffic volumes, development types and access patterns provide opportunity, a four-lane street may be narrowed to a two-lane street, with a center turn lane, in order to better accommodate on-street parking, bicycle facilities and other amenities. These types of complete street retrofit projects are generally intended to enhance facilities for non-motorized travel modes, within an existing right-of-way, without resulting in reduced functionality for the motoring public. Maintaining high-quality transit service is equally important. (UAGP Policy V.A.7)

TC-24: Constrained Streets. Many streets in the built city are constrained from further widening by existing development, as shown in ***Table 3.13-3*** For street segments identified in the table below right-of-way dedications in conjunction with any development will be limited to obtaining that necessary to close a gap in:

a. The number of vehicle lanes;
b. Bicycle lanes;
c. Sidewalk/curb/gutter; or,
d. Be a feasible mitigation measure that can't otherwise be achieved by means such as restriping within the existing right-of-way. Standard design specifications such as travel lane width or intersection design criteria may be waived or modified at the discretion of the City Engineer. Additional right-of-way may be needed at key arterial / arterial intersections to allow for turning lanes, if appropriate at any particular location(s). (UAGP Policy V.A.8)

TABLE 3.13-3. CITY OF MODESTO CONSTRAINED STREETS

CONSTRAINED STREETS	
STREET	*SEGMENT*
Briggsmore Avenue	Sisk Road to Oakdale Road
Coffee Road	Scenic Drive to Claratina Avenue
Dale Road	Standiford Avenue to Pelandale Avenue
Hatch Road	Carpenter Road to 7th Street / SR 99
Lakewood Avenue	Scenic Drive to Briggsmore Avenue
McHenry Avenue	Needham Street to Granger Avenue
Oakdale Road / El Vista Avenue	Sylvan Avenue to Yosemite Boulevard
Orangeburg Avenue	Evergreen Avenue to Coffee Road
Paradise Road	1st Street to Carpenter Road
Scenic Drive	Burney Street to Claus Road
Sisk Road	Briggsmore Avenue to Kiernan Avenue
Standiford Avenue / Sylvan Avenue	Dale Road to Oakdale Road
Tully Road	Pelandale Avenue to 9th Street
Yosemite Boulevard	D Street to general plan boundary
All downtown streets	

SOURCE: CITY OF MODESTO.

The City also intends to reduce per capita automobile vehicle miles traveled and per capita automobile trips through the implementation of the following policies.

TC-25: Street Grid. Design roadways and roadway connections to: provide a grid street system featuring short blocks and frequent connections to collectors and arterials to improve connectivity and accessibility for all modes; increase route choice; better accommodate public transit services; and, reduce trip lengths, traffic congestion, and pollution. To promote walking, limit block size to no more than 600 feet on a side, and provide internal access via alleys or walkways (any block-face less than 400 feet long need not have alleys or walkways). Cul-de-sacs are discouraged; when deemed necessary, cul-de-sacs should include pedestrian and bicycle connections to the greatest extent possible. (UAGP Policy V.B.1)

TC-26: Intersection Density. Frequent multiple-leg intersections increase street connectivity and walkability, while reducing trip lengths. Intersection density will be used to measure the degree of walkability of an area where streets have not yet been laid out. LEED ND defines walkability as a minimum threshold of 140 intersections per square mile. Higher intersection density indicates that an area is more walkable. For reference, Modesto's one-square-mile downtown grid contains approximately 140 intersections. (UAGP Policy V.B.2)

TC-27: Street or Alley Closures. Any street or alley closures or abandonments will be evaluated for their impact on walkability and vehicle miles traveled. (UAGP Policy V.B.3)

As the City develops, revisions to the transportation system should be considered in a context-sensitive manner and the effects of new development and changes to the City's transportation infrastructure on all modes of travel (train, bus, car, bicycle, and walking) should be evaluated.

TC-28: Transportation Study Thresholds. For CEQA purposes, the following are Modesto's thresholds for performing transportation studies.

Downtown Area: This area is exempt from automobile Level of Service standards and no traffic impact analysis will be required for new development.

Baseline Developed Area: If a proposal is consistent with the Urban Area General Plan, no traffic impact analysis will be required. If a general plan amendment is needed, a traffic impact analysis may be required if the proposal would result in at least 100 peak hour trips above and beyond what was assumed in the analysis for the Urban Area General Plan Master Environmental Impact Report, if determined to be necessary. LOS "D" is the significance threshold.

Planned Urbanizing Area: In new specific plan areas that are outside city limits, a traffic study may be required if project-related traffic, as measured in Average Daily Trips, is expected to be at least ten percent (10%) greater than anticipated to result from the General Plan land use designations. The purpose of such a study would be to determine the amount of feasible automobile-oriented and non-auto-oriented mitigation associated with the project. Once a specific plan has been approved and the area annexed to the city, traffic study policies for

the Baseline Developed Area will apply. LOS "D" is the significance threshold. (UAGP Policy V.C.1)

TC-29: Traffic Study. If required, a Comprehensive Traffic Study should conform to the City of Modesto Traffic Impact Study Criteria. These Criteria will be amended to reflect general plan goals and policies, including definition of metrics for all both motorized and non-motorized transportation modes. (UAGP Policy V.C.2)

TC-30: Travel Mitigation Downtown. Streets and roads in the downtown area are constrained (see Policy V.A.6). Transportation mitigation may be applied to projects in that area to facilitate non-automobile travel through means such as sidewalk widening and adding bicycle lanes and increasing transit service. (UAGP Policy V.C.3)

TC-31: Downtown Site Access Study. If it is determined that a site access study is needed to analyze proposed development in the downtown area, that study should evaluate movement conflicts across all modes (walking, bicycle, car, bus, train) with an emphasis on facilitating non- automobile travel. (UAGP Policy V.C.4)

TC-32: Travel Mitigation Outside of Downtown. Outside of the downtown area, consider and balance the effects of automobile traffic mitigation on non-automobile travel – particularly in areas where the city is attempting to improve conditions that support non-automobile travel – when considering solutions to traffic circulation problems. (UAGP Policy V.C.5)

TC-33: Prioritizing Transportation Investments. Strive to achieve high quality of service for each non-automobile travel mode appropriate to the location in the City.

Downtown Area: Pedestrian and bus quality of service should be A/B. Bicycle quality of service should be C/D or better.

Baseline Developed Area: Pedestrian quality of service should be C/D on arterial streets and A/B on local and collector streets. Bicycle quality of service should be A/B on local and collector streets, C/D on arterial streets, and E/F on expressways. Bus quality of service should range from C/D to E/F, depending upon boardings. Consider improving accessibility along impacted routes by implementing Transportation Demand Management strategies. (UAGP Policy V.C.6)

TC-34: Corridor Studies. Prepare corridor planning studies for the following roads and other roadways as deemed appropriate (See also Policies III.C.1, C.2, and C.7) (UAGP Policy V.C.7):

- State Route 108/McHenry Avenue;
- Crows Landing Road;
- Paradise Road;
- State Route 132/Yosemite Boulevard; and,
- North 9th Street.

ROADWAY POLICIES

Specific roadway policies have the goal of improving the roadway network for safety and public health to support a healthy, safe Modesto by reducing trip lengths and vehicle miles traveled per capita, reducing collision rates, supporting the increased use of alternative modes, and helping reduce greenhouse gas emissions and other air pollutants, while balancing the transportation needs of all travelers. Specific Policies to achieve these goals include:

TC-35: Coordinate Planning Efforts. Coordinate the City's streets and highways system with Caltrans', the County's, and other jurisdictions' existing facilities and plans. (UAGP Policy V.H.3)

TC-36: Transportation Demand Management. Prepare and maintain a Transportation Demand Management Plan that includes a focus on the Downtown area to reduce automobile trips and single-occupancy vehicle trips. (UAGP Policy V.H.4)

TC-37: Driveway Consolidation. Consolidate driveways to reduce potential vehicle-pedestrian conflicts. (UAGP Policy V.H.5)

TC-38: Advanced Technology. Coordinate with Caltrans to promote the application of advanced technology to help manage congestion and enhance roadway capacity and safety. (UAGP Policy V.H.6)

TC-39: Roundabouts. The City of Modesto Roundabout Policies (City Council Resolution 2004-451 as amended) provide guidance that pertains to the development of the roundabouts. (UAGP Policy V.H.7)

TC-40: Intersection Control. The type(s) of intersection control(s) (e.g. traffic signal, traffic circle, etc.) will be determined by the City Engineer at the time of project design. (UAGP Policy V.H.8)

TC-41: Standard Specifications. The City's Standard Specifications Manual applies to the construction of new roadway facilities. More design detail is provided in the City's adopted Standard Specifications. Update the Standard Specifications to be consistent with the General Plan. (UAGP Policy V.H.9)

TC-42: Transportation Priorities Near Downtown Multi-Modal Transportation Center. Evaluate the function and priorities of streets near the downtown multi-modal transportation center. (UAGP Policy V.H.12)

TC-43: Truck Routes. Evaluate the need to identify new truck routes and the potential abandonment of existing truck routes due to increased truck traffic, increased size of trucks, and conflicts with pedestrian-oriented areas and noise-sensitive land uses. (UAGP Policy V.H.13)

TC-44: Reduce Parking Demand Downtown. Reduce parking demand downtown through a Parking Management Plan that addresses pricing, on-street parking restrictions, smart meters, locations of public parking structures, carpool parking, car rental, car sharing, and electric vehicle parking. (UAGP Policy V.H.14)

BICYCLE POLICIES

Overall goals for Bicycle use are to increase bicycle trips and reduce automobile trips by making bicycling easier and more convenient and by eliminating safety concerns as a barrier to the use of bicycles for transportation. This goal would be achieved thought the implementation of the following policies.

TC-45: Bicycle Facility Types. The bicycle network consists of these facility types:

Class I Bicycle Facility (Bike Path)

A Class I facility is grade-separated from the road, is primarily for recreational purposes, and often has limited connectivity to the road network.

Class II Bicycle Facility (Bike Lane)

A Class II facility is delineated by a lane stripe and sometimes a buffer in the traveled roadway. It is used primarily for transportation, provides excellent connectivity with the road network, and convenient access to destinations.

Where the traveled roadway isn't wide enough to accommodate a full Class II facility, a sharrow can be used if vehicle speeds don't exceed 25 mph. A sharrow is a shared lane marking that helps bicyclists and motorists with the lateral positioning of a bicycle in a travel lane.

Class III Bicycle Facility (Bike Route)

A Class III facility is a bike route with signage at the roadway edge that does not include striping. Class III facilities are typically located either on local streets or on other roadways to close a gap between sections of Class II Bike Lane.

Class IV Bicycle Facility (Cycle Track)

A Class IV facility is a two-way, dedicated cycle track that is physically separated from vehicle travel lanes. (UAGP Policy V.E.1)

TC-46: Funding for Bicycle Facilities. Consider funding bicycle facilities as a priority in the Capital Improvement Program. (UAGP Policy V.E.2)

TC-47: Opportunities to Add Bicycle Facilities. When streets are repaired or resurfaced, add bicycle facilities to those streets as appropriate with striping, stencils, and/or signage. (UAGP Policy V.E.3)

TC-48: Increase Ridership. Increase bicycle ridership for transportation purposes through the addition of bicycle facilities, such as a bike-share program, and other system improvements. (UAGP Policy V.E.4)

TC-49: Network Deficiencies. Identify deficiencies and take action to correct deficiencies in the bicycle transportation network. (UAGP Policy V.E.5)

TC-50: Actively Plan New Facilities. Street projects should be evaluated to determine how the planned bicycle facilities can be accommodated. (UAGP Policy V.E.6)

TC-21: Facilities on Constrained Streets. Where right-of-way constraints exist, a "sharrow" may be used to supplement Class II bicycle facilities where vehicle speeds do not exceed 25 mph. (UAGP Policy V.E.7)

TC-52: Bicycles at Signalized Intersections. Protected intersection design features, bike boxes and bicycle detection systems may be used to delineate bicycle facilities, improve safety, and allow bicycle traffic to trigger the green phase of a traffic signal. In accordance with California Vehicle Code Section 21450.5, sensors that detect the presence of a waiting bicycle should be added to signalized intersections when signals are installed, upgraded and/or maintained. Other markings and signage may be used as approved by the City Engineer. (UAGP Policy V.E.8)

TC-53: Signal Timing. The green phase of traffic signals throughout Modesto should be timed to allow bicycle riders of all ages and abilities to cross the street safely. (UAGP Policy V.E.9)

TC-54: Bicycle Circulation Near the Downtown Passenger Rail Station. Plan for the future multi-modal transportation center, by facilitating improved bicycle access and parking in and around downtown, to establish safe and convenient bicycle connections to and from the site. (UAGP Policy V.E.10)

PEDESTRIAN POLICIES

The overall goal for Pedestrian activity is to ensure that pedestrians of all ages and abilities feel safe using pedestrian facilities to eliminate safety as a barrier to walking for transportation. This goal would be achieved thought the implementation of the following policies.

TC-55: Median Refuges. Add median refuges along arterials and four-lane collectors in areas where pedestrian traffic is to be facilitated to give pedestrians a safe halfway point for street crossings. (UAGP Policy V.D.1)

TC-56: Bulbouts. Add sidewalk bulbouts in areas where pedestrian traffic is to be facilitated to reduce crossing distance and improve visibility of pedestrians to other roadway users. (UAGP Policy V.D.2)

TC-57: Network Deficiencies. Identify gaps, needs, and deficiencies in the pedestrian transportation network. (UAGP Policy V.D.3)

TC-58: Signal Timing. The green phase of traffic signals citywide should be timed to allow pedestrians of all ages and abilities to safely cross the street. The Federal Highway Administration's Best Practices Design Guide for Designing Sidewalks and Trails for Access, suggests crossing times should allow for pedestrians traveling at 3.5 feet per second or slower. (UAGP Policy V.D.4)

TC-59: ADA Compliance. Construct or modify curbramps and sidewalks to comply with the Americans with Disabilities Act. (UAGP Policy V.D.5)

TC-60: Pedestrian Circulation Near the Downtown Multi-Modal Transportation Center. In planning for a future multi-modal transportation center, facilitate pedestrian access to and from the facility through curb extensions and generous sidewalks. (UAGP Policy V.D.6)

TC-61: Street Trees. Plant and maintain large species trees along streets to separate pedestrians from moving traffic for safety and to create an inviting walking environment. (UAGP Policy V.D.7)

TRANSIT POLICIES

Overall goals for Transit are to increase transit use through higher-frequency service of at least 15-minute headways downtown and along major transportation corridors. Transit and land use will be interconnected to support increased ridership. This would be achieved thought the implementation of the following policies.

TC-62: High-Frequency Service. Provide the most frequent service feasible in order to facilitate the highest quality public transportation. (UAGP Policy V.F.1)

TC-63: Balance Farebox Recovery and Service. Maintain farebox recovery ratios sufficient to meet state requirements while maximizing service, especially in the heavy use areas identified in Goal V.F. (UAGP Policy V.F.2)

TC-64: Minimum Service Density. Provide service on a half-mile grid where feasible to make the service as accessible as possible. Newly developing areas should provide a street pattern capable of accommodating transit service on a half-mile grid. Sidewalks should be provided in the development of new roadway systems to accommodate bus stops, and to minimize walking distance between them. (UAGP Policy V.F.3)

TC-65: Two-Way Service. Provide two-way service on bus routes where feasible. (UAGP Policy V.F.4)

TC-66: Park-and-Ride Locations. Locate park-and-ride facilities in cooperation with transit providers to maximize transit use and designed to accommodate not only motorists, but also other users of public transit and van or carpooling. (UAGP Policy V.F.5)

TC-67: Plans to Improve Service. Prepare feasibility studies and plans for the establishment of bus rapid transit and other local transit service to improve transit service in those areas where ridership is expected to increase. (UAGP Policy V.F.6)

TC-68: Bus Pullouts. Consider Bus pullouts with new development in the Planned Urbanizing Area to support transit passenger loading and unloading. (UAGP Policy V.F.7)

TC-69: Park-and-Ride. Work with new development to provide park-and-ride spaces to promote and support transit ridership. (UAGP Policy V.F.8)

TC-70: Coordinate Transit Service. Coordinate bus and other transit feeder service with passenger rail and other long-distance transit service to facilitate transfers between services and reduce automobile use. (UAGP Policy V.F.9)

TC-71: Improve Reliability. Consider upgrades to bus facilities, such as arrival/departure boards and mobile phone applications to improve predictability of service for riders. (UAGP Policy V.F.10)

TC-72: Downtown Multi-Modal Transportation Center. To the extent necessary, and without reducing public transportation services, reorient transit service to facilitate convenient access to and from the Downtown multi-modal transportation center. (UAGP Policy V.F.11)

RAIL POLICIES

Overall goals for Rail include policies related to freight and passenger rail. To support the provision of passenger rail, the overall goal is to strengthen Modesto's value as county seat and center of activity and transportation in Stanislaus County by building a passenger rail station in downtown, consistent with the California High Speed Rail Authority's service goals and with the Altamont Commuter Express' expansion plans.

TC-73: Include Historic Landmark. The eventual design of the downtown passenger rail station should incorporate Landmark 19, the Southern Pacific Transportation Center and be compatible with its architecture. (UAGP Policy V.G.1)

TC-74: Plan for a Passenger Rail Station. Prepare planning and technical studies and engineering documents as needed in support of a downtown passenger rail station. (UAGP Policy V.G.2)

TC-75: Support Passenger Rail. Seek funding for a Downtown multi-modal transportation station, including passenger rail service, and for service to that station. Support the efforts of the San Joaquin Regional Rail Commission and other agencies to do the same, and to manage and improve passenger rail service in the northern San Joaquin Valley. (UAGP Policy V.G.3)

TC-76: Extend ACE Service. Support the extension of the Altamont Commuter Express from Stockton to Merced with service in Modesto. (UAGP Policy V.G.4)

TC-77: Freight Rail. Encourages the extended and increased use of rail as an alternative transportation mode for the movement of goods. Support the intermodal linkage of "truck on rail" as a technique for reducing through- truck traffic on highway corridors. (UAGP Policy V.G.5)

TC-78: Rail Crossings. To provide acceptable traffic operations and to maintain safe crossings, support the construction of grade-separated crossings for all new heavy rail crossings. Maintain existing at-grade crossings, and evaluate new development projects to ensure that railroad crossing operations are not compromised. Seek state funding and grants to improve railroad crossings within the City. (UAGP Policy V.G.6)

POLICIES RELATED TO THE MODESTO CITY-COUNTY AIRPORT

The overall airport-related goal is to promote and improve general and commercial aviation facilities.

TC-79: Plan for Air Transportation. Support aviation services at the Modesto City-County Airport and promote airline service that meets the present and future needs of the community. Adopt and maintain an Airport Master Plan. (UAGP Policy V.I.1)

TC-80: Ground Transportation. Provide efficient ground transportation connections and enhance connectivity between SR99 and the Modesto City-County Airport. (UAGP PolicyV.I.2)

TC-81: Consistency with ALUC Plan. Land use around Modesto City-County Airport will be consistent with the Stanislaus County's Airport Land Use Commission (ALUC) plan adopted in accordance with Section 21676 of the Public Utilities Code. The ALUC plan provides for the orderly growth of the Airport and the area surrounding the Airport within the jurisdiction of the Airport Land Use Commission. (UAGP Policy V.I.3)

TC-82: Noise Mitigation. Mitigation measures suggested by the Airport Master Plan and related documents will be considered at the implementation of inter-regional air service, including a voluntary noise reduction program for residential units impacted by noise levels that exceed acceptable state standards. (UAGP Policy V.I.4)

POLICIES THAT REDUCE OR AVOID IMPACTS

The following summarizes the UAGP's policies that reduce Project-related impacts in accordance with Section 15126.4 of the State CEQA Guidelines. These are policies that reduce the need for new roads, promote alternatives modes to automobile travel, reduce potential traffic generation, and provide for the integrated planning of future transportation projects.

Section 15130 of the State CEQA Guidelines provides that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency is required to identify facts and analysis supporting this conclusion.

1. Stanislaus Council of Governments Policies

The following StanCOG policies will reduce the cumulative impacts identified in the EIR prepared for the RTP, by guiding equitable transportation systems design, function and operation: TC-1 through TC-7.

2. County Policies

County policies do not apply to Modesto. However, they are important at the City's edge where City and County roads connect. Policies TC-8 through TC-13 would reduce traffic impacts on roads that connect to the City's network by promoting coordination and cooperation among StanCOG, the County and the City.

3. Modesto Policies

Implementation of City policies as noted in TC-14 through TC-82 will avoid or reduce the severity of transportation and circulation impacts within the planning area by requiring

payment of fees, maintenance of the network for various travel modes and construction of transportation system improvements.

3.13.3 IMPACTS AND MITIGATION MEASURES

METHODS OF ANALYSIS

CEQA analysis for determining potential significant transportation impacts from vehicle traffic transitioned from an automobile delay or capacity measure to a VMT metric in July 2020, as required by Senate Bill (SB) 743. SB 743 directed agencies to develop new guidelines that provide a transportation performance metric to promote the reduction of greenhouse gas emissions, the development of multimodal networks, and diversity of land uses. VMT is an area-wide performance measure which helps compare the overall performance of a project or project alternatives and is also uses as a metric to ultimately assess the transportation environmental impacts of a project.

VMT analysis shifts the focus towards impacts caused by the distance traveled by vehicles rather than the localized congestion created by vehicles (i.e., intersection-level delay). In essence, utilizing VMT means measuring the impact that motorists have on a network, as opposed to LOS which assesses the impact of a project on motorists. In April 2018, the Office of Planning and Research (OPR) issued a Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide CEQA practitioners with assistance and recommendations in applying the new SB 743 guidance.

The technical advisory advocates for a relative metric of VMT rather than an absolute measure which indicates efficiency of new development in terms of generating VMT. It is acknowledged new development will likely increase total VMT but the goal is to add new development in areas that would reduce the average trip length. Hence the preferred VMT metric is VMT per capita or VMT per service population (population plus employment). These metrics are then compared to a predetermined threshold to determine if the new development meets the VMT goals of the local jurisdiction.

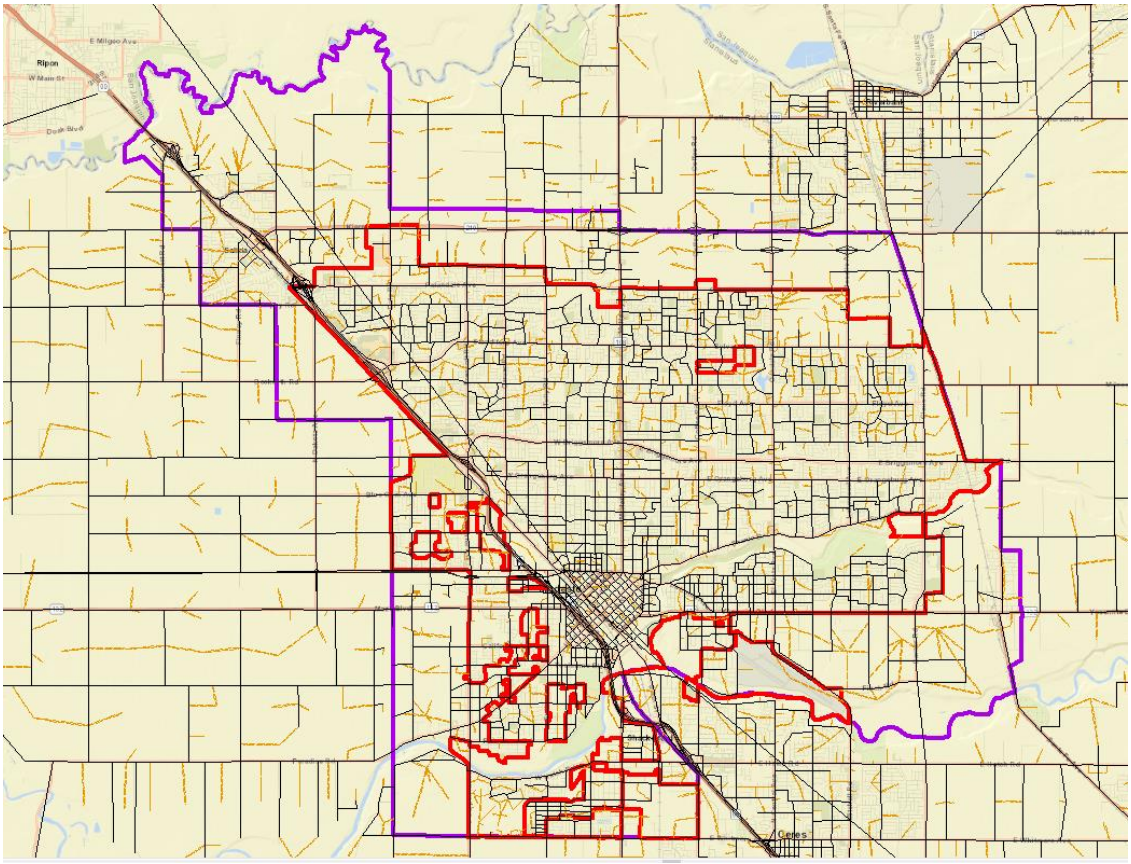
As of 2024 neither the City of Modesto nor Stanislaus County have adopted significant thresholds for VMT and individual projects are treated on a case by case basis. VMT for a new development project is typically compared to existing VMT metrics (VMT per capita or VMT per service population). However, this approach is not applicable to Specific Plans or General Plan updates where land use changes occur throughout a city. Typically, in these cases, local jurisdictions have adopted a plan to plan VMT comparison with the objective of reducing VMT per capita or VMT per service population in the new plan compared to the previous plan. Examples of Cities using this approach include the City of Corona and the City of Irvine.

To calculate the VMT associated with the future new development, the 2022 StanCOG Regional Transportation Plan (RTP) travel demand model was utilized as agreed with the City of Modesto staff. This version of the StanCOG model uses the most up to date land use assumptions available and incorporates the additional model highway network and Traffic Analysis Zone (TAZ) detail added during the development of the City of Modesto's traffic model in 2015. The 2022 StanCOG model has a base year of 2014 and a forecast year of 2040. Figure 13.4-1 shows the 2046 model highway

network in the Modesto area. The dashed orange lines represent "Centroid Connectors" which are notional connectors the model uses to load traffic from the various land uses onto the highway network, essentially representing the local street network.

The new residential land uses were added into the 2046 horizon year scenario model input files. Where geographic locations of new development were known in the case of the residential units (yellow), the proposed additional new units were distributed among the relevant model TAZs. For the other land uses categories where the distribution of the number of units was not known the TAZs containing each land use type were identified and the additional units allocated equally to each TAZ.

FIGURE 13.4-1. STANCOG MODEL 2046 HIGHWAY NETWORK



SOURCE: ITERIS, INC. MODESTO GENERAL PLAN AMENDMENT VMT STUDY, 2024.

The socioeconomic data (population stratified by age, income and other population statistics) associated with each land use category was also generated to create all input files necessary to run the model. The additional population was calculated by calculating the proportion of the original population to the number of households and applying that number to the new residential units for each TAZ. Table 3.13-4 shows the total number of new units and population added to the model. The increase in population of 63,692 represents an increase in 20% of the assumed 2046 population in the Planning Area in the StanCOG model.

TABLE 3.13-4. TRAFFIC MODEL POPULATION GROWTH

ZONING	*# OF UNITS TO BE ADDED*	*TOTAL POPULATION GROWTH*
Underutilized and Vacant-Non-Residential	4,273	11,864
Specific Plan	3,864	11,260
Residential	393	1,214
Planning Area (Outside of the City)	13,307	39,354
Total	**21,837**	**63,692**

SOURCE: ITERIS, INC. MODESTO GENERAL PLAN AMENDMENT VMT STUDY. PG. 8.

Adding new residential units to the model in isolation will create a slightly unrepresentative scenario: the additional population will also need jobs and require new schools and potentially colleges to support the increased population. Therefore, a sensitivity test was also run whereby employment was increased by 20% based on the proportion of existing jobs. This sensitivity test may overstate the VMT slightly since we might expect new employment to be somewhat more focused closer to the new housing units than the current distribution of jobs, but it provides a reasonableness check on the effects of purely addition the residential units to the model.

THRESHOLDS OF SIGNIFICANCE

For the purposes of this EIR, adoption and/or implementation of the proposed UAGP amendment would result in significant impacts under CEQA, if any of the following would occur:

- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: General Plan implementation would result in VMT increases that are greater than 85 percent of Baseline conditions (Significant and Unavoidable)

The proposed development was evaluated against the screening criteria in OPR's Technical Advisory (SB 743 Memorandum). The following criteria is applicable to residential developments.

1. Small projects – projects consistent with a Sustainable Communities Strategy and local general plan that generate or attract fewer than 110 trips per day.
2. Projects near major transit stops – certain projects (residential, retail, office, or a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
3. Affordable residential development – a project consisting of a high percentage of affordable housing may be a basis to find a less-than-significant impact on VMT.

4. Projects in low VMT areas – residential and office projects that incorporate similar features (i.e., density, mix of uses, transit accessibility) as existing development in areas with low VMT will tend to exhibit similarly low VMT.

The SB 743 Memorandum identifies the recommended numeric VMT thresholds for residential projects. Based on the VMT thresholds, a residential project would result in a less-than-significant transportation impact if:

5. Under existing (baseline) conditions, the residential development would generate home-based VMT per dwelling unit equal or below 85 percent of the existing (baseline) City of Manteca average for the same housing category (single family, multi-family, or age-restricted); and
6. Under cumulative conditions, the residential development would generate home-based VMT per dwelling equal or below 85 percent of the cumulative City of Manteca average for the same housing category (single family, multi-family, or age-restricted).

Alternatively, the project would result in a less-than-significant transportation impact if:

7. The residential development would cause the total VMT in the model area to decrease under baseline AND cumulative conditions.

General Plan implementation does not constitute a small project, is not located within ½ mile of an existing major transit stop, and is not a redevelopment project. Therefore, the development is not eligible to be screened out based on these criteria. Furthermore, the SB 743 Memorandum does not identify any low VMT areas in Modesto for project screening purposes. Moreover, General Plan implementation would result in VMT that would be greater than 85% of baseline conditions; additionally, General Plan implementation would not cause the total VMT in the model area to decrease. Therefore, this is considered a ***significant and unavoidable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

Table 3.13-1 summarizes the VMT per service population and per capita results calculated from the StanCOG model for the 2019 base year, 2046 No Project, 2046 With Project, and 2046 With Project plus Employment Growth. The table shows the VMT per capita and the VMT per service population with Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within the City and the Planning Area.

In the With Project scenario the VMT per capita reduces by 10 percent compared to the No Project (existing General Plan) while the VMT per service population decreases by 5 percent, meaning that the With Project provides an improved condition relative to the No Project. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project. This indicates that the General Plan Amendment associated with the updated Housing element is an improvement over the current General Plan in terms of VMT efficiency.

Table 3.13-2 shows the daily VMT summary for each scenario with the corresponding socioeconomic data. While adding new residential units and employment increases total VMT the relative metric of VMT per Service population decreases with population and employment growth when compared with 2019 Baseline and 2045 No project VMT.

As shown in Table 3.13-2, the proposed UAGP amendment would not result in VMT increases that exceed the threshold for employment-related land uses. The Housing Element will add 21,837 housing units within the Planning Area (City and the Sphere of Influence). The addition of housing units leads to population growth of 63,692 or a 20 percent increase. The VMT results also indicate the VMT per capita and the VMT per service population With Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within both the City and the full Planning Area. This represents an improvement in VMT efficiency compared to the current General Plan, which suggests that implementation of the With Project would result in a less than significant impact.

Nevertheless, the data shows that General Plan implementation with the proposed amendments to the General Plan and zoning ordinance would result in VMT that would be greater than 85% of baseline conditions, which would exceed the OPR's SB 743 Memorandum criteria. Moreover, it anticipated that there will be some individual projects developed, that may individually have VMT increases that are greater than 85% of baseline conditions. Furthermore, General Plan implementation with the proposed amendments to the General Plan and zoning ordinance would not screen out under the OPR's screening criteria, nor is total VMT in the model area expected to decrease. For these reasons, the impact would not change from the previous impact determination of ***significant and unavoidable***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

1. **Stanislaus Council of Governments Policies**

   The following StanCOG policies will reduce the cumulative impacts identified in the EIR prepared for the RTP, by guiding equitable transportation systems design, function and operation: TC-1 through TC-7.

2. **County Policies**

   County policies do not apply to Modesto. However, they are important at the City's edge where City and County roads connect. Policies TC-8 through TC-13 would reduce traffic impacts on roads that connect to the City's network by promoting coordination and cooperation among StanCOG, the County and the City.

3. **Modesto Policies**

   Implementation of City policies as noted in TC-14 through TC-82 will avoid or reduce the severity of transportation and circulation impacts within the planning area by requiring payment of fees, maintenance of the network for various travel modes and construction of transportation system improvements.

Impact 3.13-2: General Plan implementation would not conflict with a program, plan, policy or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities (Less than Significant)

Implementation of the General Plan could lead to increases in the city's population and employment that would increase the demand for pedestrian and bicycle facilities and transit facilities and services.

The City works within the framework of the 2022 StanCOG Regional Transportation Plan (RTP), which focuses on creating a more sustainable transportation system and land use development pattern, and includes transportation projects such as highway and road construction, airports, alternative fuel vehicle acquisition, public transit, and bicycle paths. The StanCOG RTP is also developed and periodically updated to provide guidance and funding opportunities for local roadway expansion and improvements, which include bicycle and pedestrian facilities.

The existing City of Modesto UAGP contains additional policies and implementing actions that support access to and the performance of transit, bicycle, and pedestrian facilities. Further, the UAGP includes mixed-use development that is supportive of non-automotive modes. The proposed UAGP amendment includes policies and actions that support implementation of applicable bicycle and pedestrian plans and ensure new transportation infrastructure includes adequate bicycle and pedestrian facilities. These applicable policies and implementing actions are listed below.

TC-45: Bicycle Facility Types. The bicycle network consists of these facility types:

Class I Bicycle Facility (Bike Path)

A Class I facility is grade-separated from the road, is primarily for recreational purposes, and often has limited connectivity to the road network.

Class II Bicycle Facility (Bike Lane)

A Class II facility is delineated by a lane stripe and sometimes a buffer in the traveled roadway. It is used primarily for transportation, provides excellent connectivity with the road network, and convenient access to destinations.

Where the traveled roadway isn't wide enough to accommodate a full Class II facility, a sharrow can be used if vehicle speeds don't exceed 25 mph. A sharrow is a shared lane marking that helps bicyclists and motorists with the lateral positioning of a bicycle in a travel lane.

Class III Bicycle Facility (Bike Route)

A Class III facility is a bike route with signage at the roadway edge that does not include striping. Class III facilities are typically located either on local streets or on other roadways to close a gap between sections of Class II Bike Lane.

Class IV Bicycle Facility (Cycle Track)

A Class IV facility is a two-way, dedicated cycle track that is physically separated from vehicle travel lanes. (UAGP Policy V.E.1)

TC-46: Funding for Bicycle Facilities. Consider funding bicycle facilities as a priority in the Capital Improvement Program. (UAGP Policy V.E.2)

TC-47: Opportunities to Add Bicycle Facilities. When streets are repaired or resurfaced, add bicycle facilities to those streets as appropriate with striping, stencils, and/or signage. (UAGP Policy V.E.3)

TC-48: Increase Ridership. Increase bicycle ridership for transportation purposes through the addition of bicycle facilities, such as a bike-share program, and other system improvements. (UAGP Policy V.E.4)

TC-49: Network Deficiencies. Identify deficiencies and take action to correct deficiencies in the bicycle transportation network. (UAGP Policy V.E.5)

TC-50: Actively Plan New Facilities. Street projects should be evaluated to determine how the planned bicycle facilities can be accommodated. (UAGP Policy V.E.6)

TC-21: Facilities on Constrained Streets. Where right-of-way constraints exist, a "sharrow" may be used to supplement Class II bicycle facilities where vehicle speeds do not exceed 25 mph. (UAGP Policy V.E.7)

TC-52: Bicycles at Signalized Intersections. Protected intersection design features, bike boxes and bicycle detection systems may be used to delineate bicycle facilities, improve safety, and allow bicycle traffic to trigger the green phase of a traffic signal. In accordance with California Vehicle Code Section 21450.5, sensors that detect the presence of a waiting bicycle should be added to signalized intersections when signals are installed, upgraded and/or maintained. Other markings and signage may be used as approved by the City Engineer. (UAGP Policy V.E.8)

TC-53: Signal Timing. The green phase of traffic signals throughout Modesto should be timed to allow bicycle riders of all ages and abilities to cross the street safely. (UAGP Policy V.E.9)

TC-54: Bicycle Circulation Near the Downtown Passenger Rail Station. Plan for the future multi-modal transportation center, by facilitating improved bicycle access and parking in and around downtown, to establish safe and convenient bicycle connections to and from the site. (UAGP Policy V.E.10)

The proposed UAGP amendment would not conflict with adopted programs, plans, policies, or ordinances that address the circulation system, including transit, bicycle, and pedestrian facilities. As previously described, the General Plan Update includes policies and actions that ensure that the circulation system, including transit, bicycle, and pedestrian facilities, are consistent with applicable programs, plans, policies, and ordinances and address the needs of growth accommodated by the proposed UAGP amendment. Therefore, this impact is ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a less than significant impact for this environmental topic. Overall, these density changes would not cause a conflict with a program, plan, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

1. **Stanislaus Council of Governments Policies**

   The following StanCOG policies will reduce the cumulative impacts identified in the EIR prepared for the RTP, by guiding equitable transportation systems design, function and operation: TC-1 through TC-7.

2. **County Policies**

   County policies do not apply to Modesto. However, they are important at the City's edge where City and County roads connect. Policies TC-8 through TC-13 would reduce traffic impacts on roads that connect to the City's network by promoting coordination and cooperation among StanCOG, the County and the City.

3. **Modesto Policies**

   Implementation of City policies as noted in TC-14 through TC-82 will avoid or reduce the severity of transportation and circulation impacts within the planning area by requiring payment of fees, maintenance of the network for various travel modes and construction of transportation system improvements.

Impact 3.13-3: General Plan implementation would not increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Less than Significant)

Implementation of the proposed UAGP amendment would result in increased development, which would result in new roadways and would increase the number of users on the city's transportation system.

The City's design and construction standards and specifications provide for coordinated and standardized development of City facilities, including roadways. The standards apply to, regulate, and guide the design and preparation of plans, and the construction of streets, highways, alleys, drainage, traffic signals, site access, and related public improvements.

The circulation element developed as part of the UAGP contains policies and actions in support of safe circulation by all modes, including requirements that roadways are designed consistent with

City standards, designed to provide adequate emergency access and address safety concerns. These applicable policies are listed below.

With implementation of the General Plan policies and actions related to circulation, hazards, and emergency access, impacts to emergency circulation and access associated with implementation of the General Plan Update would be ***less than significant***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a less than significant impact for this environmental topic. Regardless, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

1. **Stanislaus Council of Governments Policies**

   The following StanCOG policies will reduce the cumulative impacts identified in the EIR prepared for the RTP, by guiding equitable transportation systems design, function and operation: TC-1 through TC-7.

2. **County Policies**

   County policies do not apply to Modesto. However, they are important at the City's edge where City and County roads connect. Policies TC-8 through TC-13 would reduce traffic impacts on roads that connect to the City's network by promoting coordination and cooperation among StanCOG, the County and the City.

3. **Modesto Policies**

   Implementation of City policies as noted in TC-14 through TC-82 will avoid or reduce the severity of transportation and circulation impacts within the planning area by requiring payment of fees, maintenance of the network for various travel modes and construction of transportation system improvements.

Utilities are critical to provide safe drinking water, disposal and treatment of wastewater, stormwater drainage, and solid waste disposal. This section provides a background discussion of the utility systems in Modesto including water supplies, wastewater collection and treatment, storm drainage, and solid waste. This section is organized with an existing setting, regulatory setting, and impact analysis.

There was one comment received during the NOP comment period related to this environmental topic, from the Central Valley Regional Water Quality Control Board on October 28, 2024.

3.14.1 WATER SUPPLIES

POTABLE WATER SYSTEM

The City has been providing potable water service to its urban area since 1895 through the purchase and acquisition of several private water companies. Until 1995, the sole source of water supply to the City was groundwater pumped from the San Joaquin Valley Groundwater Basin. In the early 1990s, the City, MID, and the former Del Este Water Company formed a partnership to use a portion of MID's surface water supplies for municipal water use. This shift to surface water supply has allowed the City to stabilize groundwater pumping rates to allow for groundwater aquifer recovery.

MID was formed as the second irrigation district in California in 1887. Since that time, MID has developed numerous water rights and facilities to provide agricultural irrigation water from the Tuolumne River. MID has also developed groundwater supplies for agricultural uses. For the current and projected planning timeframe in the Joint 2020 UWMP, it is assumed that MID would only provide wholesale treated surface water to the City for municipal use within the City's contiguous service area located north of the Tuolumne River.

The City's contiguous service area consists of approximately 900 miles of transmission and distribution pipelines. MID owns and operates a portion of the transmission mains traversing the City, and these transmission mains provide treated surface water through a series of turnouts that can control water supply into the City's water distribution system. The contiguous system is served by the City's groundwater wells and ten at-grade storage tanks with a combined total storage capacity of 32.1 million gallons (MG). Each storage tank has a booster pump station to pump water from the tank into the distribution system. There are also two 5.0 MG Modesto Regional Water Treatment Plant (MRWTP) reservoirs (10.0 MG total) that are owned and operated by MID which deliver treated water from MID to downstream transmission mains.

The City's outlying service areas are served by groundwater wells located in each of the outlying service areas. The Grayson service area has an at-grade storage tank (0.16 MG of available storage) and booster pump station. Within the Del Rio service area, the City has also nearly completed construction of a new 0.25 MG tank and associated booster pump station, as well as new groundwater Wells 68 and 70. The other outlying service areas are served from existing groundwater wells or connections to neighboring agencies. As noted above, the City also serves potable groundwater to the Jennings WWTP.

The City's actual potable water demands for the 2020 calendar year are reported in Table 3.14-1. Losses are estimated at ten percent of City production, which is consistent with the City's 2015 UWMP. There are no existing water uses for saline barriers, groundwater recharge or agriculture within the City's water service area.

MID has never delivered potable, raw, or recycled water directly to urban customers and does not plan to do so. The actual volume of water MID sold to the City for the 2020 calendar year is reported in Table 3.14-2.

TABLE 3.14-1: DEMANDS FOR POTABLE AND NON-POTABLE WATER – ACTUAL (RETAIL)

LAND USE	*ADDITIONAL DESCRIPTION*	*LEVEL OF TREATMENT WHEN DELIVERED*	*VOLUME, AFY*
Singe Family	--	Drinking Water	27,081
Multi-family	--	Drinking Water	5,420
Commercial	--	Drinking Water	8,110
Industrial	--	Drinking Water	2,115
Institutional/Governmental	--	Drinking Water	1,933
Landscape	--	Drinking Water	2,520
Other Potable	Unmetered water uses	Drinking Water	615
Losses	--	Drinking Water	5,310
Total			**53,104**

SOURCE: UWMP, 2020

TABLE 3.14-2: DEMANDS FOR POTABLE AND NON-POTABLE WATER – ACTUAL (WHOLESALE)

LAND USE	*ADDITIONAL DESCRIPTION*	*LEVEL OF TREATMENT WHEN DELIVERED*	*VOLUME, AFY*
Sales to other agencies	City of Modesto	Drinking Water	26,053
Losses	--	Drinking Water	52
Total			**26,105**

SOURCE: UWMP, 2020

PROJECTED WATER USE

This section presents water demand projections for the City's water service area in five-year increments through 2045 (i.e., a 25-year planning horizon) and annually from 2021 through 2025. Table 3.14-3 reports the City's projected potable water demands through the year 2045, while Table 3.14-4 summarizes the City's actual demands and projected water use, along with recycled water demands. As noted previously, no recycled water demands are projected for the City's water service area. There are also no projected water uses for saline barriers, groundwater recharge or agriculture within the City's water service area.

TABLE 3.14-3: USE FOR POTABLE AND NON-POTABLE WATER – PROJECTED

LAND USE	PROJECTED WATER USE[A]				
	2025	2030	2035	2040	2045
Single Family	33,204	35,614	38,025	40,436	42,846
Multi-Family	6,498	6,970	7,442	7,913	8,385
Commercial	9,723	10,429	11,135	11,841	12,546
Industrial	2,536	2,720	2,904	3,088	3,273
Institutional/Governmental	2,318	2,486	2,654	2,822	2,991
Landscape	3,021	3,241	3,460	3,679	3,899
Losses	6,367	6,829	7,291	7,753	8,216
Total	**63,666**	**68,289**	**72,911**	**77,533**	**82,156**

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

(A) VOLUMES ARE IN AF. DEMAND PROJECTIONS ARE FROM THE CITY'S 2017 WATER MASTER PLAN BUT HAVE BEEN REDUCED 15 PERCENT TO BETTER ALIGN WITH RECENT ACTUAL DEMANDS.

TABLE 3.14-4: TOTAL GROSS WATER USE (POTABLE AND NON-POTABLE)

	2020	2025	2030	2035	2040	2045
Potable Water, Raw, Other Non-potable	53,104	63,666	68,289	72,911	77,533	82,156
Recycled Water Demand	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage	0	0	0	0	0	0
Total Water Use	**63,666**	**68,289**	**72,911**	**77,533**	**82,156**	**82,156**

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

NOTES: VOLUMES ARE IN AF.

MID's projected urban water demands (i.e., sales to the City) through the year 2045 are reported in Table 3.14-5. Table 3.14-6 summarizes the actual demands and projected water use. As noted previously, MID has never delivered recycled water directly to urban customers and does not plan to do so.

TABLE 3.14-5: USE FOR POTABLE AND RAW WATER – PROJECTED (WHOLESALE)

	ADDITIONAL DESCRIPTION	2025	2030	2035	2040	2045
Sales to other agencies	City of Modesto	39,200	44,800	50,400	56,000	61,600
Total Water Use	**63,666**	**39,200**	**44,800**	**50,400**	**56,000**	**61,600**

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

NOTES: VOLUMES ARE IN AF. ASSUMES SUPPLY FROM MRWTP PHASE TWO EXPANSION WILL INCREASE LINEARLY BETWEEN 2020 AND 2050. TREATED SURFACE WATER SUPPLIES SHOWN ABOVE ARE APPROXIMATIONS BASED OFF OF DEMAND. ANY AND ALL TREATED SURFACE WATER TO BE PROVIDED SHALL BE IN ACCORDANCE WITH THE ARTDA.

TABLE 3.14-6: TOTAL WATER USE (POTABLE AND NON-POTABLE)

	2020	*2025*	*2030*	*2035*	*2040*	*2045*
Potable Water, Raw, Other Non-potable	26,105	39,200	44,800	50,400	56,000	61,600
Recycled Water Demand	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage	0	0	0	0	0	0
Total Water Use	**26,105**	**39,200**	**44,800**	**50,400**	**56,000**	**61,600**

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

NOTES: VOLUMES ARE IN AF.

CWC Section 10635(b) requires urban suppliers to include a five-year Drought Risk Assessment (DRA) in their 2020 UWMP. A key component of the DRA is estimating demand for the next five years (2021-2025) without drought conditions (i.e., unconstrained demand).

TABLE 3.14-7: PROJECTED WATER DEMANDS FOR DROUGHT RISK ASSESSMENT

LAND USE	*WATER DEMANDS, AFY[(A)]*				
	2021	*2022*	*2023*	*2024*	*2025*
Single Family	28,797	29,899	31,000	32,102	33,204
Multi-Family	5,636	5,851	6,067	6,282	6,498
Commercial	8,432	8,755	9,078	9,400	9,723
Industrial	2,200	2,284	2,368	2,452	2,536
Institutional/Governmental	2,010	2,087	2,164	2,241	2,318
Landscape	2,620	2,721	2,821	2,921	3,021
Losses	5,522	5,733	5,944	6,155	6,367
Total	**55,216**	**57,329**	**59,441**	**61,554**	**63,666**

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

(A) DEMAND PROJECTIONS FOR 2021-2024 ARE BASED ON LINEAR INTERPOLATION OF ACTUAL 2020 DEMANDS PRESENTED IN TABLE 3.14-1 AND 2025 DEMAND PROJECTIONS PRESENTED IN TABLE 3.14-3.

Distribution System Water Losses

System losses are the difference between the actual volume of water treated and delivered into the distribution system and the actual metered consumption. Such apparent losses are always present in a water system due to pipe leaks, unauthorized connections or use, faulty meters, unmetered services (e.g., fire protection and training), and system and street flushing.

New regulations require retail water suppliers to include potable distribution system water losses for the preceding five years (to the extent records are available). The City estimates its water losses on a fiscal year basis, with the fiscal year beginning July 1st and ending June 30th of the following year. For the City's water service area, the estimated system losses (i.e., the difference between production and sales) for the preceding five fiscal years (2015/2016 through 2019/2020) are

summarized in Table 3.14-8. Water loss reporting accuracy will be improved when the City finishes implementing metering citywide.

At the time of preparation of the City's UWMP, DWR and the State Water Resources Control Board were in the process of adopting water loss standards.

TABLE 3.14-8: LAST FIVE YEARS OF WATER LOSS AUDIT REPORTING

REPORTING PERIOD START DATE (MM/YYYY)	*VOLUME OF WATER LOSS*
07/2015	8,779
07/2016	7,519
07/2017	9,532
07/2018	8,313
07/2019	9,024

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.
NOTES: VOLUMES ARE IN AF.

WATER SYSTEM SUPPLIES

This section describes water facilities that supply and deliver urban water to the City's service area. As described above, MID is primarily an agricultural water supplier and operates extensive facilities to deliver agricultural water supplies. These facilities, although not described below, include a complex network of canals, pipelines, pumps, drainage features, and control structures.

Surface Water Supply

In the early 1990s, the City, MID, and the former Del Este Water Company (acquired by the City in 1995) formed the Modesto Domestic Water Partnership to use a portion of MID's surface water rights for municipal uses. This partnership entered into a Treatment and Delivery Agreement (TDA) to cover the design, construction, operation (i.e., governing delivery of treated surface water from MID to the City), and financing for the Initial Phase (Phase One) of the MRWTP. This new surface water treatment plant, along with associated storage and delivery facilities, became operational in 1995, and the City has purchased wholesale treated surface water from MID since.

The MRWTP is owned and operated by MID and per the original TDA, delivers a total annual supply of up to 33,600 AFY to the City. This treated surface water supply from MID, coupled with the available groundwater supply (together termed a "conjunctive supply"), is used to meet the City's water supply needs for municipal customers in the contiguous service area located north of the Tuolumne River (this is the southern boundary of the MID service area).

The MRWTP Phase Two Expansion project was completed in 2016 and provides the City with the ability to receive a total annual supply of up to 67,200 AFY. It should be noted that the total supply (67,200 AFY) is based on normal and wet year annual averages. The delivery of Phase One and Phase Two treated surface water is governed by the October 2005 Amended and Restated TDA (ARTDA), which includes formulas to determine supply reductions during dry years.

MID is primarily an agricultural water supplier that provides irrigation water to approximately 3,400 irrigation accounts. MID serves a gross irrigation service area of approximately 103,733 acres; however, MID's irrigated acreage may vary in any given year. In 2020, approximately 62,223 acres (66,421 acres, less 4,198 idle acres) were irrigated with surface water, MID groundwater, and private groundwater. In addition to its irrigation accounts, MID also provides treated surface water to the City's contiguous service area north of the Tuolumne River (North Modesto, Salida, and Empire).

Together with the Turlock Irrigation District (TID), MID holds senior rights to water from the Tuolumne River. The 1,880-square mile (sq mi) Tuolumne River watershed extends to the high Sierra Nevada Mountains, and the river flows to its confluence with the San Joaquin River approximately ten miles west of Modesto. Most of the water in the Tuolumne River comes from snowmelt, with peak runoff flows occurring from April through July during which time over 60 percent of the annual flow takes place. Within the lower Tuolumne River watershed, MID and TID operate the Don Pedro Reservoir with a maximum storage capacity of 2,030,000 AF. MID's annual diversion from the Tuolumne River was approximately 258,000 AF of water (average from 2011 to 2020). Of that amount, approximately 26,780 AF (average from 2011 to 2020) was delivered to the MRWTP for treatment and delivery to the City.

Snowmelt from the central Sierra Nevada is of excellent quality. Surface water diverted from the Tuolumne River at La Grange has a Total Dissolved Solids (TDS) concentration of only about 36 milligrams per liter (mg/L). Other water quality constituents that impact agricultural and domestic water use are also very low or negligible. Also, the quality of the river water is fairly consistent from year to year. As runoff from agricultural and developed land is introduced into the lower part of the river, the overall water quality degrades somewhat but remains good.

Groundwater Supply

The City's groundwater supply wells are located throughout the contiguous and outlying service areas, but all are within the San Joaquin Valley Groundwater Basin (Modesto, Turlock, and Delta-Mendota subbasins). Residents within the contiguous service area north of the Tuolumne River (North Modesto, Salida, and Empire) generally rely on treated surface water supply from MID year-round and are supplemented with groundwater to meet increased water demands (primarily in the summer months). Water demand from the contiguous service area located south of the Tuolumne River (South Modesto) and the outlying service areas are met exclusively with groundwater supply year-round. The City currently has 89 active groundwater wells (including six wells for non-potable uses and two wells on standby) to serve both the contiguous and outlying service areas.

The City has historically relied on groundwater pumped from the San Joaquin Valley Groundwater Basin as a major source of supply. The City's service area spans three subbasins: the Modesto Subbasin north of the Tuolumne River, the Turlock Subbasin south of the Tuolumne River, and the Delta-Mendota Subbasin west of the San Joaquin River that provides groundwater to the Grayson service area.

The residents within the City's contiguous service area north of the Tuolumne River generally rely on treated surface water supply from MID year-round and are supplemented with groundwater to

meet increased water demands primarily in the summer months. Water demands from the City's contiguous service area located south of the Tuolumne River (South Modesto) and the outlying service areas are met with groundwater supply year-round.

The City's service area relies on groundwater pumped from three of the nine subbasins within the San Joaquin Valley Groundwater Basin. Groundwater levels in the Modesto Subbasin declined on average nearly 15 feet between 1970 and 2000. However, since augmenting the City's groundwater supply with treated surface water from the MRWTP beginning in 1995, the City has observed that groundwater levels have started to rise, particularly in the Modesto Subbasin, as a result of reduced groundwater pumping. From 1996 to 2000, groundwater levels in the Modesto Subbasin rose approximately 5 feet. Water levels in the Turlock Subbasin, similarly, rebounded about 8 feet from 1994 to 2000, bringing them to approximately 7 feet below the 1970 level. Water levels in the Delta-Mendota Subbasin increased by an average of 2.2 feet from 1970 through 2000. The rising water levels suggest that the current level of pumping in each subbasin is less than the previously assumed "safe yields".

Modesto Regional Water Treatment Plant

The original Phase One MRWTP is a 30 MGD conventional treatment facility owned and operated by MID, which provides flocculation, sedimentation, and filtration, along with ozonation for primary disinfection. Treated surface water from the MRWTP is delivered to the City via MID's terminal reservoir facilities (a booster pump station and two 5 MG storage tanks located on the east side of the City) through a series of turnouts that have the ability to control water supply from the MID transmission mains at various points within the City's water distribution system. Phase One of the MRWTP has a maximum functional capacity of 42.5 MGD that helps meet the maximum day and peak hour demands but has been permitted by the State to produce up to 45 MGD.

In October 2005, MID and the City approved the ARTDA, which set forth the MRWTP Phase Two Expansion project that would allow MID to deliver up to 67,200 AFY of treated water to the City for municipal use. The MRWTP Phase Two Expansion project included the construction of a new parallel treatment process consisting of low-pressure membranes, ozone disinfection system, a dissolved air flotation thickener and a new Supervisory Control and Data Acquisition (SCADA) system. Substantial completion of the MRWTP Phase Two Expansion project was reached in October 2015, and the project was accepted as complete by the MID Board of Directors in May 2016. The supply available from the MRWTP Phase Two Expansion project is projected to increase along with demand within both the City's contiguous service area and MID's treated water "place of use." Any and all treated surface water to be provided shall be in accordance with the ARTDA. The total treatment capacity of the MRWTP Phase Two Expansion project is 30 MGD.

The total capacity available at the MRWTP with the completion of the MRWTP Phase Two Expansion project is 60 MGD with a maximum annual supply of up to 67,200 AFY.

Purchased or Imported Water

The treated surface water supply that the City purchases from MID is described below. MID does not purchase wholesale water supplies, and a discussion of MID's water supply was provided above.

Historically, annual treated surface water deliveries to the City have been relatively consistent, with groundwater pumping varying as needed to meet water demands. However, during the most recent drought, MID reduced surface water deliveries to both its agricultural customers and to the City.

Recycled Water

The City does not currently operate a recycled water system. Secondary treated effluent is either used to irrigate City-owned ranch lands or stored in on-site ponds. The City delivers tertiary treated recycled water to DPWD as part of the NVRRWP. MID also does not operate a recycled water system. In the future, the City and MID do not have plans to develop recycled water systems within their respective water service boundaries.

WATER SERVICE RELIABILITY

This section evaluates the City and MID's water supply reliability for normal, single dry, and five consecutive dry years. The City's normal water year supplies include:

- MRWTP Phase One supply of 33,600 AFY;
- MRWTP Phase Two Expansion supply, assumed to be 5,600 AFY in 2025 and increasing linearly as additional development occurs within the City's contiguous water service area up to an additional total supply of 33,600 AFY in 2050; and
- Groundwater pumping from City's local groundwater basins (up to 51,500 AFY) is assumed to provide 100 percent of the City's remaining water demand.

The City's normal water year demands have been projected based on remaining vacant land assumed to be developed by buildout in the City's water service area. Table 3.14-9 shows that in normal water years, the City's supplies are adequate to meet projected demands.

TABLE 3.14-9: NORMAL YEAR SUPPLY AND DEMAND COMPARISON, AFY (RETAIL)

	2025	*2030*	*2035*	*2040*	*2045*
Supply totals	63,666	68,289	72,911	77,533	82,156
Demand totals	63,666	68,289	72,911	77,533	82,156
Difference	0	0	0	0	0

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

MID's total urban supply to meet expected City demands is assumed to be approximately 39,200 AFY in 2025 and is planned to increase (up to 67,200 AFY in 2050) along with growth in the City's contiguous water service area. Any increase in supply will need to conform to requirements of the ARTDA. The City's water demand to be met by MID supplies is projected to match MID's available supply because the City plans to maximize the use of treated surface water supply. Table 3.14-10 shows that in normal water years, MID's supply is adequate to meet projected demands.

TABLE 3.14-10: NORMAL YEAR SUPPLY AND DEMAND COMPARISON, AFY (WHOLESALE)

	2025	*2030*	*2035*	*2040*	*2045*
Supply totals	39,200	44,800	50,400	56,000	61,600
Demand totals	39,200	44,800	50,400	56,000	61,600
Difference	0	0	0	0	0

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

The City's multiple dry year supplies include:

- Projected base purchased surface water supplies from MRWTP Phase One and the MRWTP Phase Two Expansion (with a 12.4 percent reduction from normal year MID supplies during the first dry year and an additional 12.4 percent reduction in each successive dry year); and
- Groundwater pumping from City's local groundwater basins (up to 51,500 AFY).

As shown in Table 3.14-11, during multiple dry years the City's supplies are adequate to meet projected demands with water conservation. It is assumed that water conservation efforts can reduce the City's "multiple dry year" demands as needed to match available supplies. As discussed above, the City significantly reduced water demands during 2014 and 2015 and can implement similar water conservation measures to respond to future water supply shortages.

TABLE 3.14-11: MULTIPLE DRY YEARS SUPPLY AND DEMAND COMPARISON, AFY (RETAIL)

		2025	*2030*	*2035*	*2040*	*2045*
First year	Supply totals	63,666	68,289	72,911	77,533	82,156
	Demand totals	63,666	68,289	72,911	77,533	82,156
	Difference	0	0	0	0	0
Second year	Supply totals	64,591	69,213	73,836	78,458	83,080
	Demand totals	64,591	69,213	73,836	78,458	83,080
	Difference	0	0	0	0	0
Third year	Supply totals	65,515	70,138	74,760	79,382	84,005
	Demand totals	65,515	70,138	74,760	79,382	84,005
	Difference	0	0	0	0	0
Fourth year	Supply totals	66,440	71,062	75,685	80,307	84,310
	Demand totals	66,440	71,062	75,685	80,307	84,310
	Difference	0	0	0	0	0
Fifth year	Supply totals	67,364	70,281	72,414	74,548	76,681
	Demand totals	67,364	70,281	72,414	74,548	76,681
	Difference	0	0	0	0	0

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

NOTES: VOLUMES ARE IN AF. PROJECTED DEMAND BASED ON THE 2017 WATER MASTER PLAN (REDUCED BY 15 PERCENT TO BETTER ALIGN WITH RECENT ACTUAL DEMANDS). FOR PLANNING PURPOSES, A CONSERVATIVE SUPPLY CONDITION ASSUMING A 12.4, 24.8, 37.1, 49.5, AND 61.9 PERCENT REDUCTION IN MID TREATED WATER SUPPLY DURING CONSECUTIVE DRY YEARS IS USED HERE. AVAILABLE GROUNDWATER SUPPLY ASSUMED TO BE 51,500 AFY. DEMAND REDUCTIONS BETWEEN 1 AND 11 PERCENT WERE REQUIRED TO MATCH AVAILABLE SUPPLIES DURING THE FOURTH AND FIFTH YEARS.

During multiple dry years, the MID base urban supply is projected to be reduced by approximately 12.4 percent during the first year with an additional 12.4 percent reduction in successive years (up

to a total reduction of 61.9 percent in the fifth consecutive dry year). If available, the difference between dry year base supply and normal year supply will be available as an allocation on an optional basis at additional cost to the retail supplier (i.e., the City). For planning purposes, it is conservatively assumed that this supplemental allocation is unavailable.

As shown in Table 3.14-12, during multiple dry years MID's maximum available supply will be used to meet projected demands. The City's water demand to be met by MID supplies is projected to match MID's available supply because the City plans to maximize the use of treated surface water supply.

TABLE 3.14-12: MULTIPLE DRY YEARS SUPPLY AND DEMAND COMPARISON, AFY (WHOLESALE)

		2025	*2030*	*2035*	*2040*	*2045*
First year	Supply totals	34,347	39,253	44,160	49,067	53,973
	Demand totals	34,347	39,253	44,160	49,067	53,973
	Difference	0	0	0	0	0
Second year	Supply totals	30,321	34,534	38,748	42,961	47,174
	Demand totals	30,321	34,534	38,748	42,961	47,174
	Difference	0	0	0	0	0
Third year	Supply totals	26,023	29,543	33,063	36,583	40,103
	Demand totals	26,023	29,543	33,063	36,583	40,103
	Difference	0	0	0	0	0
Fourth year	Supply totals	21,503	24,330	27,156	29,983	32,810
	Demand totals	21,503	24,330	27,156	29,983	32,810
	Difference	0	0	0	0	0
Fifth year	Supply totals	16,648	18,781	20,914	23,048	25,181
	Demand totals	16,648	18,781	20,914	23,048	25,181
	Difference	0	0	0	0	0

SOURCE: CITY OF MODESTO JOINT UWMP, 2020.

NOTES: VOLUMES ARE IN AF. DURING DRY YEARS, THE CITY MAY HAVE THE OPPORTUNITY TO PURCHASE ADDITIONAL WATER FROM MID (AT A HIGHER RATE) OR TO EXCHANGE GROUNDWATER FOR AGRICULTURAL USE FOR TREATED SURFACE WATER FROM MID. FOR PLANNING PURPOSES, IT IS CONSERVATIVELY ASSUMED THAT SUPPLEMENTAL PURCHASE AND EXCHANGE OPTIONS ARE UNAVAILABLE AND THAT MULTIPLE DRY YEAR REDUCTIONS ARE USED (YEAR 1 = 12.4%, YEAR 2 = 24.8%, YEAR 3 = 37.1%, YEAR 4 = 49.5%, AND YEAR 5 = 61.9%).

REGULATORY SETTING – WATER SUPPLIES

State

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)

The State Water Resources Control Board (State Water Board), Division of Drinking Water, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (SRF) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water

treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for methyl tertiary butyl ether (MTBE) and other oxygenates.

CALIFORNIA CODE OF REGULATIONS RELATED TO DRINKING WATER

California Code of Regulations (CCR) Title 17 addresses the need to protect water systems from potential cross-contamination and touches on the permitting guidance for water supply reservoirs for recreational use. Title 22 addresses permitting, certification and licensing, domestic water quality and monitoring regulations for primary and secondary standards including bacteriological quality; inorganic chemicals; organic chemicals; radioactivity; and disinfectant residuals, precursors, and byproducts. Title 22 also addresses the Surface Water Treatment Rule, the Groundwater Rule, and the Lead and Copper Rule. The regulations detail the maximum contaminant levels for the various contaminants, the best available treatment technologies available to treat those contaminants, and the public notification requirements in the event of a detection. The California Water Works Standards are also contained within Title 22.

CALIFORNIA WATER WORKS STANDARDS

CCR Title 17, Chapter 16 is the California Waterworks Standards. These standards detail the permitting requirements and amendments for public water systems; the basis for determining and documenting source capacity; permitting requirements for construction of new water supply wells; materials and installation of water mains and appurtenances; requirements for design and construction of distribution reservoirs; disinfection of water mains, wells, and reservoirs; distribution system operation, and general recordkeeping requirements.

URBAN WATER MANAGEMENT PLANNING ACT

The Urban Water Management Planning Act (Water Code Sections 10610 et seq.) requires preparation of an UWMP by any public or private entity that provides municipal water service to more than 3,000 customers or delivers more than 3,000 af/y. The UWMP describes and evaluates reasonable, practical, and efficient uses of the entity's water supplies, including reclamation and conservation activities. State law requires early consultation between cities and counties and affected water agencies when specific plans are adopted or when amendments or revisions to the Land Use Element of the UAGP are proposed that would result in a net increase in the stated population density or building intensity. The city or county must request from affected water agencies a determination of whether the projected water demand associated with the proposed project was included in their last UWMP and whether its total projected water supplies available during normal, single-dry, and multiple-dry years as included in the 20-year projection contained in their UWMP will meet the projected water demand associated with the proposed project, in addition to the water agency's existing and planned future uses. If the lead agency determines that water supplies will not be sufficient, the lead agency must include that determination in its project findings.

SENATE BILL (SB) 610 AND ASSEMBLY BILL (AB) 901

The State Legislature passed SB 610 and AB 901 in 2001, both modifying the UWMP Act.

SB 610 requires additional information in a UWMP if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment (WSA). The WSA must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires a UWMP to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a description of plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

SENATE BILL (SB) 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision application of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for determining whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwelling units, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7, and the analysis must include consideration of effects on other users of water and groundwater.

STATE WATER RESOURCES CONTROL BOARD

SWRCB's Division of Drinking Water Quality is responsible for ensuring that the municipal water distribution systems are designed and constructed in compliance with Title 22 of the California Code of Regulations (CCR), California Waterworks Standards.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT

SGMA (California Water Code Section 10750 et seq.), comprised of AB 1739, SB 1319, and SB 1168, allows local agencies to customize groundwater sustainability plans to their regional economic and environmental conditions and needs (State of California 2015). Among other things, SGMA requires that a groundwater sustainability plan be adopted for high- and medium-priority groundwater basins (127 out of 515 basins and subbasins) in California. SGMA also requires, by June 30, 2017, the formation of locally controlled groundwater sustainability agencies (GSAs) in the State's high- and medium-priority groundwater basins and subbasins (basins). A GSA is responsible for developing and implementing a groundwater sustainability plan (GSP) to meet the sustainability goal of the

basin to ensure that it is operated within its sustainable yield, without causing undesirable results. The GSP Emergency Regulations for evaluating GSPs, the implementation of GSPs, and coordination agreements were adopted by DWR and approved by the California Water Commission on May 18, 2016.

EXECUTIVE ORDER B-37-16

In May 2016, Governor Edmund G. Brown, Junior, signed Executive Order B-37-16 (Executive Order), Making Water Conservation a California Way of Life. The Executive Order directed five State Agencies (the State Water Board, Department of Water Resources, California Department of Food and Agriculture, California Public Utilities Commission, and the California Energy Commission) to establish a long-term water conservation framework that builds on the momentum created during drought, provides a clear path forward to making conservation a California way of life, and better positions the State to withstand future droughts. This conservation framework, called the "Making Water Conservation a California Way of Life Implementing Executive Order B-37-16," was released on April 7, 2017. The framework includes recommendations to establish long-term water conservation standards and improved agricultural and urban water management planning to better prepare for more frequent and severe droughts. These actions will help achieve a top priority of the California Water Action Plan - to improve long-term drought preparedness and "Make Conservation a California Way of Life."

ASSEMBLY BILL (AB) 1668 AND SENATE BILL (SB) 606-MAY 31, 2018

AB 1668 and SB 606 build on Governor Brown's ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The two bills strengthen the state's water resiliency in the face of future droughts with provisions that include: establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses; providing incentives for water suppliers to recycle water; identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning; and requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.

Local

CITY OF MODESTO/MODESTO IRRIGATION DISTRICT JOINT URBAN WATER MANAGEMENT PLAN (2020)

An Urban Water Management Plan (UWMP) helps water suppliers assess the availability of their water supplies with current and projected water use to help ensure reliable water service under different conditions. The Urban Water Management Planning Act (Act) requires larger water suppliers that provide water to urban users (whether directly or indirectly) to develop UWMPs every five years. UWMPs evaluate conditions for the next 20 to 25 years, so these regular updates ensure continued, long-term water supply planning.

STANISLAUS LOCAL AGENCY FORMATION COMMISSION POLICIES

Stanislaus Local Agency Formation Commission (LAFCo) oversees the annexation of unincorporated lands into city limits. Prior to annexation, the applicant is required to show that the areas will have adequate water services. LAFCo develops and determines the sphere of influence of each local government agency within the County, including the present capacity for public facilities such as water supply. LAFCo discourages urban sprawl, which can best be described as irregular and disorganized growth occurring without apparent design or plan. This pattern of development is characterized by the inefficient delivery of important urban services, such as water supply.

Adopted LAFCo policies include the requirement that a plan for service be prepared and submitted by the local agency being affected by the proposed annexation. The plan of service must include information that the range and level of services currently available within the existing boundaries will be at least maintained in the proposed annexation area. Annexations which reduce the existing levels of service will not be approved by the LAFCo.

When determining spheres of influence for cities and special districts, LAFCo must conduct a service review of the municipal services provided in an area, as determined by the LAFCo. The municipal services review (MSR) is a comprehensive review of all the agencies that provide the service within the identified area. Typical municipal services include police, fire, sewer, water, and storm drainage services. When conducting the MSR, the LAFCo must prepare a written statement of its determinations with respect to the factors identified in Government Code Section 56430. The factors that must be considered include growth and population projections; present and planned capacity of public facilities and adequacy of public services, including infrastructure needs and deficiencies; financial ability of agencies to provide services; status of, and opportunities for, share facilities; and accountability for community service needs, including governmental structure and operational efficiencies.

STANISLAUS COUNTY POLICIES

WS-6: Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application. (Land Use Element, Goal One, Policy Four)

WS-7: Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc. (Land Use Element, Goal Four, Policy Twenty-Four)

WS-8: Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers. (Conservation / Open Space Element, Goal Two, Policy Five).

WS-9: New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not

adversely impact Stanislaus County water resources. (Conservation / Open Space Element, Goal Two, Policy Seven)

WS-10: Promote the use of water reservoirs for multiple recreational purposes, where appropriate. (Conservation / Open Space Element, Goal Four, Policy Thirteen)

CITY OF MODESTO POLICIES

The UAGP provides the following policies related to water supplies:

WS-11: Each Specific Plan should be accompanied by a long-range financing strategy that provides reasonable estimates of the costs of on- and off-site infrastructure to support the proposed development pattern. The strategy should generally address public facility funding, including schools, for any development project that serves to implement the subject Specific Plan. If new public facilities are required that will also serve the broader community, the Specific Plan should include options for broad-based funding mechanisms. Each Specific Plan should address the need to provide water, wastewater and storm drainage infrastructure, in the context of the required Facilities Master Plan and Infrastructure Master Plan (prepared at developer's expense). (UAGP Policy III.I.4)

WS-12: Implement the demand management and conservation measures identified in the City's adopted Urban Water Management Plan (UWMP). During review of development proposals, it requires that all developments reduce their potable water demand. Refer to the UWMP for potential techniques to reduce potable water demand. (UAGP Policy VI.A.1)

WS-13: Require water infrastructure master plans for public infrastructure and/or when otherwise pertinent to provision of water service at adopted service levels for the specific plan areas or other projects depending on site issues and location. (UAGP Policy VI.A.2)

WS-14: All new connections to the public water system are to have meters installed. In addition, on or before January 1, 2025, all existing municipal and industrial service connections are to have water meters installed. (UAGP Policy VI.A.3)

WS-15: Any local public or private entity that produces recycled water, and determines that within ten (10) years it will provide recycled water within the boundaries of the City of Modesto, must notify the City of that fact. Within 180 days of receipt of the notice, the City of Modesto should adopt and enforce a specified recycled water ordinance, which is to comply with the City of Modesto's UWMP. (UAGP Policy VI.A.4)

WS-16: For properties outside the City limits and sewer district boundaries, and for properties outside the City limits, but inside of, contiguous to, and/or near the former service area of Del Este Water Company, the extension of water service may be approved by the City Manager per City Council Policy 5.001, as amended. (UAGP Policy VI.A.5) WS-17: Prepare and adopt an Urban Water Management Plan every five (5) years in accordance with State law (Water Code). (UAGP Policy VI.B.1).

WS-18: Prepare and maintain a Water Master Plan. Update the Water master plan, as needed, to incorporate changes in growth projections, water supplies, and demands. (UAGP Policy VI.B.2)

WS-19: Encourage the optimum beneficial use of water resources within the City. The City shall strive to maintain an adequate supply of high-quality water for urban uses. At a minimum, potable water supplies delivered to water customers shall conform to the primary maximum contaminant levels as defined in State law. (UAGP Policy VI.B.3)

WS-20: Strive to stabilize groundwater levels and minimize groundwater overdraft, as part of a conjunctive groundwater / surface water management program. View regional water resources, such as groundwater, surface water, and recycled wastewater, as an integrated hydrologic system when developing water management programs. (UAGP Policy VI.B.4)

WS-21: Construct, operate, maintain, and replace water infrastructure facilities in a manner that will provide the best possible service to the public. Ensure that infrastructure is installed before or concurrently with development. Take a comprehensive approach to financing, using a blend of special taxes, benefit assessments, and other methods to ensure that infrastructure installation occurs in a timely manner. (UAGP Policy VI.B.5)

WS-22: Continue to establish guidelines, policies, and programs to implement water conservation to the maximum extent feasible. Funding for large conservation rebate or exchange programs should be maintained and enhanced. Strive to maximize the utilization of water resources when developing and implementing the City's Economic Development Strategy. (UAGP Policy VI.B.6)

WS-23: Implement Local Basin Management Objectives discussed in the Integrated Regional Groundwater Management Plan, or the management objectives in the most recent groundwater sustainability plan, which relate to the specific approaches to water management goals including groundwater supply, groundwater quality, and protection against inelastic land surface subsidence. (UAGP Policy VI.C.1) WS-24: Develop and implement a water recycling program to reduce the demands for new water supplies in the City and subbasins. (UAGP Policy VI.C.2)

Based on the City's 2015 Water Shortage Contingency Plan, the UWMP identifies the following approaches related to water conservation and shortages (drought). Water shortage stages are defined as follows: Stage I is a 10-20 percent reduction, Stage II is a 20-35 percent reduction, Stage IIA is a 30-40 percent reduction, and Stage III is a 35-50 percent reduction.

- Prohibitions on end uses to limit specific uses of water (based on the City's 2015 Drought Contingency Plan):
    - Limit landscape irrigation to specific times.
        - Stage I, prohibit outdoor water use from 12:00 noon to 7 p.m. (however, may be extended to 9 a.m.-7 p.m. at Council discretion)
        - Stage II, prohibit water use from 9 a.m. to 7 p.m.
    - Limit landscape irrigation to specific days

        - Stage I, limit to no more than three days per week
        - Stage II, limit to no more than two days per week
        - Stage IIA, limit to no more than one day per week
    - Prohibit certain types of landscape irrigation
        - Stage III, no outdoor water use except for trees or shrubs by hand and vegetation maintained through drop irrigation
    - Prohibit all landscape irrigation
        - Stage III, moratorium on all new landscaping
    - Other landscape restriction or prohibition
        - Stage I, new landscaping must comply with existing and future landscape ordinances
        - Stage II, no irrigating turf or ornamental landscaping during or/and 48 hours following measurable rainfall
    - Commercial, Industrial, and Institutional
        - Lodging establishments must offer opt-out of linen service (Stage II)
        - Restaurants may only serve water upon request
            - Stage I, encouraged only
            - Stage II, mandatory
        - Other restrictions or prohibition
            - Stage III, moratorium on all new connections
        - Water Features
            - Restrict water use for decorative water features, such as fountains
                - Stage II, no use of outdoor fountains except for maintenance purposes
            - Other water feature or swimming pool restrictions
                - Stage III, moratorium on all new swimming pools
            - Other
                - Stage I – customers must repair leaks, breaks, and malfunctions in a timely manner (water leaks, once identified by homeowner, must be repaired within 24 hours); require automatic shutoff of hoses; prohibit use of potable water for washing hard surfaces (hosing concrete areas, building exteriors, etc., is prohibited except for health and safety concerns)
                - Stage III – prohibit vehicle washing except at facilities using recycled or recirculating water
            - Other
                - Stage I – Car washing limited to specific times and days (same as irrigation use); require water meter installation on all new single-family homes

        - Stage II – Mandatory retrofit of low flow showerheads in homes when building/ remodeling occurs
        - Stage III – Mandatory retrofit of low flow toilets in homes when building/ remodeling occurs
      - Enforced through penalties for excess water use (administrative fees, fines), as required by California Water Code Section 10632(a)(6)
  - Consumption reduction methods to reduce water demand:
    - Expand public information campaign;
    - Improve customer billing;
    - Offer water use surveys;
    - Provide rebates on plumbing fixtures and devices;
    - Provide rebates for landscape irrigation efficiency;
    - Decrease line flushing;
    - Increase water waste patrols;
    - Reduce system water loss; and,
    - Moratorium or net zero demand increase on new connections.

The City has worked with other local stakeholder agencies to formulate groundwater management plans pursuant to SGMA. A draft GMP was prepared for the Turlock Groundwater Basin and a draft IRGMP was prepared for the Stanislaus and Tuolumne Rivers Groundwater Basin. Groundwater management plans are developed to address identification and management of wellhead protection and recharge zones, regulation of migration of contaminated groundwater, control of saline intrusion, administration of well abandonment, mitigation of overdraft, replenishment of groundwater, monitoring of groundwater levels and storage, facilitation of conjunctive use operations, administration of local groundwater cleanup projects, development of relationships with state and federal regulatory agencies, and review and coordination of land-use plans. Both the STRGBA and TGBA are initiating preparation of GSPs that will be completed by 2022.

CITY OF MODESTO WATER MASTER PLAN

The objective of the Water Master Plan is to clearly define the City's long-term water supply and infrastructure needs, and to develop a WMP that will provide the flexibility and system reliability that the City needs to accommodate changing future conditions. The development of this WMP included working closely with City staff to lay out the likely future scenarios for expansion and upgrading of the City's water system, and to develop tools that will allow City staff to analyze future options.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact on the environment associated with Utilities and Service Systems if it will:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; and/or

- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, single dry and multiple dry years.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: General Plan implementation would not result in insufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry, and multiple dry years (Less than Significant)

Implementation of the UAGP would result in increased population and employment growth within the Planning Area, and a corresponding increase in the demand for additional water supplies. This additional urban development would increase the amount of impervious surface areas, which could potentially restrict the amount of natural groundwater recharge from rainfall and thereby further exacerbate problems associated with declining groundwater levels.

With respect to groundwater usage, the UAGP predicts increased groundwater usage over time. The UAGP was developed in consideration of the operating yield of the Modesto and Turlock groundwater sub-basins. This operating yield was calculated to better manage the groundwater basin in consideration of estimates of annual recharge and pumping activities, and to prevent lowering of the groundwater table. Therefore, by design, development under the UAGP should not substantially lower the overall basin-wide level of water or the capacity of the groundwater basins.

The City is a participant in the GSAs that have been formed for the Modesto and Turlock subbasins. Both GSAs are currently developing GSPs per the requirements of SGMA. The City, along with other agencies or private entities, will implement the recommendations of the GSP, when available, in accordance with SGMA.

As described in the UWMP, the City uses a conjunctive water use strategy involving treated surface water supplies from MID and local groundwater supplies from the City's wells to provide the City with flexibility in its water supply system. The City has a number of groundwater supply management programs and infrastructure projects to ensure long-term function of its wells and availability of its groundwater supplies, as described in the City's Water Master Plan. Specifically, the City implements groundwater management activities, a groundwater aquifer storage and recovery program, proposed wellhead treatment activities, and well replacement or development projects that would allow for use of the existing groundwater supply entitlements. In conclusion, as described in the UWMP, the City has sufficient water supply to meet demand in normal, single dry, and multiple dry water years through 2045 with water conservation. As a result, no new or expanded water supply entitlements would be needed. Therefore, this impact is considered ***less than significant,*** and no additional mitigation is necessary.

The projected City population would require the development of additional groundwater wells, and construction of additional water distribution and treatment facilities including water storage tanks, pipelines, wells, and pump stations. The UAGP includes policies that would reduce impacts from the construction of new water distribution facilities and ensure an adequate water supply for

development and to minimize the potential adverse effects of increased water use. Therefore, impacts of these facilities are generally addressed in this EIR and the facilities would be subject to the applicable policies, any mitigation measures and impact conclusions in the respective resource chapter. To the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements. Therefore, this has a ***less than significant*** impact.

The policies and actions listed below would further assist in ensuring that adequate water supplies are available to serve the new growth projected under the UAGP.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. Although water consumption may increase with these proposed amendments to the General Plan and Zoning Ordinance, as stated within this impact statement, to the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP requires implementation of the Demand Measurement and Conservation Measures identified in the UWMP. The UWMP identifies measures from the Water Shortage Contingency Plan that would reduce water usage during identified water shortages. State, County, LAFCO, and UAGP Policies (WS-11 through WS-24) would contribute to avoidance or reduction of water supply impacts.

Impact 3.14-2: General Plan implementation would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

Development and growth in the City under the UAGP would result in increased demand for water supplies, including water conveyance and treatment infrastructure. The UAGP includes policies and actions to ensure that water supplies are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available water supplies.

The proposed Project does not change the existing Modesto's UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. The proposed Project does, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). Table 2.0-2 of

Section 2.0: Project Description presents the existing and proposed densities and realistic yield for vacant and underutilized parcels within the City limits with these zoning designations. Development accommodated under the UAGP would result in additional residents in the City. As described in Chapter 2.0, the UAGP is expected to accommodate up to 11,085 units within the city limits, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This represents an increase of 8,530 units within the city limits at full buildout. Outside the city limits, but within the planning area, the existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units in the area outside the city limits but within the planning area. The total increase in housing capacity is estimated with be 21,837 units. The projected associated water demand would be mostly served through surface water supplies, which would require treatment prior to use. The MRWTP has already been expanded from 30 mgd to 60 mgd to accommodate this.

It is anticipated that water supply infrastructure will need to be extended to serve future development. Future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network.

The City will be updating its water, sewer, recycled water, and storm water master plans in the near future to identify necessary infrastructure to meet the needs of population growth and new development. In addition, the City has a Water Shortage Contingency Plan that is discussed in detail in the UWMP, which identifies the necessary steps to take in the event of a water shortage. Conservation measures identified in the Water Shortage Contingency Plan are tied to the level of severity of any water shortage and are enforceable. In addition, completion of the City's metering program will ultimately decrease the amount of per capita water use and water system losses through improved monitoring, which could substantially reduce the need to develop additional water sources. All of these factors limit the extent to which new or expanded water treatment facilities would be needed. This, in combination with UAGP policies, would ensure that the City would not require or result in the construction of new water treatment facilities or expansion of existing facilities that could cause significant environmental effects.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the UAGP, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time, as the UAGP does not propose or authorize any specific development projects or include details on any future development projects.

However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure

(meeting the most current standards and regulations), are anticipated to be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan, as discussed in this Draft EIR. Therefore, this impact is considered ***less than significant,*** and no additional mitigation is necessary.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. Although water consumption may increase with these proposed amendments to the General Plan and Zoning Ordinance, as stated within this impact statement, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure (meeting the most current standards and regulations), are anticipated to be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan, as discussed in this Draft EIR. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The UAGP requires implementation of the Demand Measurement and Conservation Measures identified in the UWMP. The UWMP identifies measures from the Water Shortage Contingency Plan that would reduce water usage during identified water shortages. State, County, LAFCO, and UAGP Policies (WS-11 through WS-24) would contribute to avoidance or reduction of water supply impacts.

3.14.2 WASTEWATER

This section describes how development associated with the City of Modesto Urban Area General Plan (UAGP) would affect increased demand for sanitary sewer services.

KEY TERMS

Effluent: Effluent is an outflowing of water from a natural body of water, or from a man-made structure. Effluent in the man-made sense is generally considered to be water pollution, such as the outflow from a sewage treatment facility or the wastewater discharge from industrial facilities. In the context of waste water treatment plants, effluent that has been treated is sometimes called secondary effluent, or treated effluent.

NPDES: Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge, do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

WWTP: Wastewater treatment plant. Treatment of wastewater may include the following processes: screening to remove large waste items; grit removal to allow sand, gravel, and sediment to settle out; primary sedimentation where sludge can settle out of the wastewater; secondary treatment to substantially degrade the biological content of the sewage; tertiary treatment to raise the quality of the effluent before it is discharged; and, discharge.

WASTEWATER SYSTEM

The City's sanitary sewer system comprises more than 600 miles of wastewater collection system pipelines, ranging from six to 66 inches in diameter; 69 miles of trunk lines greater than 15 inches in diameter; an additional 15 miles of trunk lines connecting cannery food processors directly to land disposal (application) areas; and approximately 40 lift stations (also referred to as pump stations) used to pump wastewater against gravity where necessary.

The City of Modesto owns and operates two wastewater treatment facilities: Sutter and Jennings. Modesto's wastewater is treated to meet the stringent Federal and State regulatory requirements. An average of 20 million gallons of Modesto's wastewater is treated per day at Sutter, and nearly 15 million of those gallons are further treated at Jennings to tertiary (recycled water) levels.

The wastewater is screened and clarified at the Sutter Primary Treatment Facility, which removes inorganic and settleable organic waste. The inorganic solids are sent to the landfill, while organic solids are digested and converted to nutrient-rich biosolids. The wastewater is then pumped seven miles to Jennings Treatment Facility.

At Jennings, 14.9 million gallons are treated each day at the City's Tertiary Treatment Plants. This water is then discharged into the Delta-Mendota Canal to be used for irrigation by the Del Puerto Water District. The remaining wastewater is treated to secondary levels through fixed film reactors and facultative ponds and then stored for irrigation. This water is blended with seasonal cannery process water and applied alongside the nutrient-rich biosolids from Sutter to a 2,450-acre fodder ranch at Jennings.

The Jennings Plant includes secondary treatment facilities, tertiary treatment facilities, and a 2,526-acre agricultural ranch land used for application of treated domestic secondary effluent, cannery process water, and anaerobically digested biosolids trucked from the Sutter Plant. The secondary treatment facility includes three 140-foot-diameter fixed film reactors, a 100-acre aerated recirculating channel, three treatment ponds that are approximately 334 acres, and approximately 600 acres of treated wastewater storage ponds. Most of the treated wastewater is used for irrigation, and a limited amount is discharged to the San Joaquin River. The treated effluent is stored in the City's storage pond system until irrigation and/or discharge can occur. Any water that is discharged to the San Joaquin River (typically between October and May) is first disinfected with chlorine and then dechlorinated with sulfur dioxide.

The tertiary treatment facilities at the Jennings Plant consist of two plants: Phase 1 and Phase 2 Biological Nutrient Removal (BNR) / Tertiary Facilities. The Phase 1 facilities were completed in 2010, and the Phase 2 facilities were completed in 2015. Each plant has secondary biological reactors for biological oxygen demand (BOD) removal and nitrification / denitrification, membrane filtration, and ultraviolet (UV) disinfection. These facilities increase the level of treatment and will enable year-round surface water discharge or reuse. Effluent from both the Phase 1 and Phase 2 facilities are used to supply tertiary-treated recycled water demands off-site. The combined BNR/tertiary facilities have a production capacity of 14.9 mgd.

The current capacity of the City's wastewater treatment system is 81 million gallons per day (mgd) (including capacity for 40.2 mgd for cannery wastewater). In 2014, the average non-canning season domestic wastewater flows (exclusive of cannery segregated flow) were 18.5 mgd. During the 2014 dry season, the sewer system received an average of approximately 20 mgd of wastewater, with a peak of 36.3 mgd. The peak wet weather wastewater flow was approximately 72.8 mgd.

During the non-canning season (October through mid-July), the Sutter Plant receives flows and loads from domestic sources, minor industrial facilities, and major industrial facilities, and smaller volumes from the canning segregated industries. During the non-canning season, year-round flows from major food processing industries (Frito-Lay and Gallo Winery) are combined with domestic wastewater and treated at the Sutter and Jennings Plant facilities. Conversely, as discussed above, during the canning season (July through September or early October), canning segregated flows received at the Sutter Plant are sent directly to the Jennings Plant and get applied directly to the City's ranch land. During the canning season, the City is able to augment treatment capacity at the Sutter Plant by sending cannery wastewater directly to the Jennings Plant after it has been screened at the primary plant. Cannery waste is disposed of by irrigation at agricultural ranch lands owned by the City. Cannery waste consists of wash water containing organic vegetable material. The process of segregating cannery wastewater flows began in July 1999. In 2014, an average of 14.8 mgd of

cannery segregated wastewater was received at the Sutter Plant during the canning season. The peak 30-day flow during the canning season was 20.3 mgd.

REGULATORY SETTING - WASTEWATER

Federal

CLEAN WATER ACT (CWA) / NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

Wastewater disposal is regulated under Section 402 of the Clean Water Act (33 U.S. Code Section 121 et seq.) and the state Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.). The Central Valley RWQCB implements these acts by administering the National Pollutant Discharge Elimination System (NPDES) and by the issuing of waste discharge requirements (WDRs), respectively. The Central Valley RWQCB is also responsible for ensuring that the operation of City wastewater treatment facilities meets the requirements of those permits. The City's NPDES permit allows treated effluent to be used for irrigation during proper soil and weather conditions and to be discharged into the San Joaquin River from October 1 through May 31 when river flows meet prescribed standards. The NPDES permit requirements of the Central Valley RWQCB ensure that discharges from the sewage treatment plants do not adversely affect water quality. The City's NPDES Permit is on a five-year renewal cycle and was recently renewed in August 2022.

State

STATE WATER RESOURCES CONTROL BOARD/REGIONAL WATER QUALITY CONTROL BOARD

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The City of Manteca falls within the jurisdiction of the Central Valley Regional Water Quality Control Board.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The RWQCB's role has historically been one of providing overall direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain

permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

TITLE 22, CALIFORNIA CODE OF REGULATIONS

Title 22 of the California Code of Regulations (CCR) regulates the production of reclaimed water in California for three main types of recycled water use: landscape irrigation, recreational impoundments, and industrial uses. The California Department of Public Health (CDPH) is responsible for reviewing proposed water recycling projects and for providing comments and recommendations to the Central Valley RWQCB, which issues water recycling requirements through the waste discharge permit process. Title 22 of the CCR, Division 4, Chapter 3, establishes "Water Recycling Criteria," which include criteria for water quality, treatment process requirements, and treatment reliability criteria for reclamation operations. Title 22 of the CCR also defines requirements for sampling and analysis of reclaimed water and requires specific design requirements for facilities. Under 22 CCR, the proposed use of recycled water for landscape irrigation would fall under the guidelines for "landscape irrigation with high public contact." To be used as a supply source for this designation, the recycled water must meet the process requirements for "disinfected tertiary recycled water," which is defined in 22 CCR, Division 4, Chapter 3, Section 60301.230, as recycled water that has been oxidized, coagulated, clarified, filtered, and disinfected.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the State Water Resources Control Board (SWRCB) has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to a Regional Water Quality Control Board (RWQCB). The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the Central Valley Regional Water Quality Control Board (CVRWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the number of pollutants that can be contained in each facility's discharge.

Local

STANISLAUS LOCAL AGENCY FORMATION COMMISSION POLICIES

The Stanislaus Local Agency Formation Commission (LAFCO) oversees the annexation of unincorporated lands to the City and the efficient provision of services to those lands. LAFCO policies discourage urban sprawl (i.e., irregular and disorganized growth occurring without apparent design or plan) and promote an efficient system of service delivery (California Government Code Section 56425). Before an area is annexed, the applicant is required to show that the area will have adequate sanitary sewer service.

To coordinate services provided by local government agencies, the LAFCO establishes a sphere of influence delineating the area to be served by each agency. For the City, the criteria for its sphere of influence include the capacity to provide public facilities such as sewer service. By designating a sphere of influence for each service provider, the LAFCO prevents overlapping jurisdictions and duplicated services.

When determining spheres of influence for cities and special districts, the LAFCo must conduct a service review of the municipal services provided in an area, as determined by the LAFCO. The municipal services review (MSR) is a comprehensive review of all the agencies that provide the service within the identified area. Typical municipal services include police, fire, sewer, water, and storm drainage services. When conducting the MSR, the LAFCO must prepare a written statement of its determinations with respect to the factors identified in Government Code Section 56430. These factors require the consideration of several factors such as: growth and population projections; present and planned capacity of public facilities and adequacy of public services, including infrastructure needs and deficiencies; financial ability of agencies to provide services; status of, and opportunities for, share facilities; and accountability for community service needs, including governmental structure and operational efficiencies..

CITY OF MODESTO POLICIES

Under its NPDES permit, the City is required to develop, administer, implement, and enforce a comprehensive stormwater management program to reduce pollutants carried in urban runoff to the maximum extent practicable. The City's adopted guidance manual specifically controls post-construction urban runoff pollutants from newly developed and redeveloped areas. The Erosion and Sediment Control for Construction Activities manual describes the best management practices (BMPs) that will be required as source control and treatment control measures for commercial / industrial and multi-family residential sources.

In addition, the UAGP (Chapter VI, Section B) provides the following policies related to wastewater disposal services:

> SS-5: Consider reclaiming wastewater as a means to optimize the region's water resources, reduce discharge from the treatment plant, reduce the risk of fines and reduce costs associated with producing water from new / additional sources. (UAGP Policy VI.D.1)
>
> SS-6: Comply with the Central Valley Regional Water Quality Control Board requirement to cease all discharge of wastewater that is treated at less than tertiary levels by May 1, 2018. (UAGP Policy VI.D.2)
>
> SS-7: Consider reuse of wastewater treatment byproducts, such as biosolids and digester gas, which can reduce costs associated with treatment plant operations. (UAGP Policy VI.D.3)
>
> SS-8: Pursue the near-term expansion of the wastewater treatment and disposal capacity of the Jennings Road Treatment Plant. (UAGP Policy VI.D.4)

SS-9: Pursue the long-term relocation of the Sutter Avenue Primary Treatment Plant, to the Jennings Road site, in order to consolidate operations and reduce treatment plant flooding risks. (UAGP Policy VI.D.5)

SS-10: Construct, operate, maintain, and replace wastewater facilities in a manner that will provide the best possible service to the public. In developing implementation plans, consideration should be given to rehabilitation of essential existing facilities, expansion to meet current excess demand, and the timely expansion for future demand. (UAGP Policy VI.D.6)

SS-11: Allocate the City's wastewater system capacity to existing and future residential, commercial, and industrial customers. Discharges from environmental cleanup sites may be issued conditional discharge permits subject to the availability of excess treatment capacity. In accordance with federal and state regulations, discharges to the wastewater system may not, or may not threaten to, upset or interfere with, the wastewater system. (UAGP Policy VI.E.1)

SS-12: Require wastewater infrastructure master plans for the specific public infrastructure or when otherwise pertinent to provision of service at adopted service levels for the specific plan areas or other projects depending on site issues and location. (UAGP Policy VI.E.2)

SS-13: Individual development projects are subject to review by the City for adequate wastewater collection service and treatment. (UAGP Policy VI.E.3)

SS-14: Subject to the approval of the Stanislaus Local Agency Formation Commission, the City of Modesto will be the sole provider of wastewater services to the area within the City's Sphere of Influence and sewer service area. (UAGP Policy VI.E.4)

SS-15: Prior to annexation, determine that adequate wastewater treatment and disposal capacity can be provided for the proposed annexation area. (UAGP Policy VI.E.5)

SS-16: Within the city limits and the sewer service area, all existing developed properties should connect to the sewer system within five (5) years of the extension of service. (UAGP Policy VI.E.6)

SS-17: Encourage the regional beneficial reuse of reclaimed water, and commit to development of a full reclamation program in the long term. Comply with Title 22 standards for use of reclaimed water and criteria contained in the California Department of Public Health "Purple Book." (UAGP Policy VI.E.7)

SS-18: Participate in the North Valley Recycled Water Program, which involves routing of tertiary treated wastewater to the Delta Mendota Canal. (UAGP Policy VI.E.8)

SS-19: Strive to use land application of biosolids as the most environmentally beneficial reuse of this resource, rather than the disposal options of landfilling or incineration. (UAGP Policy VI.E.9)

SS-20: Develop methods to discontinue use of the sanitary system to temporarily drain stormwater runoff, and strive to eliminate cross-connections between the wastewater and stormwater infrastructure systems. (UAGP Policy VI.E.10)

SS-21: Strive to establish odor buffer zones around primary and secondary wastewater plants, thereby minimizing the likelihood of odors impacting new residential or commercial development. (UAGP Policy VI.E.11)

SS-22: Utilize source control and demand management among its tools for accomplishing the most cost-effective wastewater management that protects public health and the environment. (UAGP Policy VI.E.12)

SS-23: Require each new development project to be served with public sanitary sewers. Utilities located in private streets shall be part of the public sewerage system and shall be connected to a sewer lateral. (UAGP Policy VI.E.14)

SS-24: For properties outside the City limits and sewer district boundaries, the extension of sewer service may be approved by the City Manager per City Council Policy 5.002, as amended. (UAGP Policy VI.E.15)

SS-25: Prepare and implement an update to the City's Wastewater Master Plan (WWMP), and complete an EIR for the updated WWMP. The updated WWMP should account for the UAGP, zoning revisions, updated growth projections, updated sewer demand information, regulatory requirements, and identify new capital improvement projects. The WWMP should involve several improvements to the City's collection system and upgrades to the Sutter and Jennings plants. The objectives of the updated WWMP may include the following:

- To implement the City's economic goals and Urban Area General Plan by planning for, and providing, sewer infrastructure in a timely and cost-effective manner to serve new and existing development.
- To repair and replace aging wastewater infrastructure.
- To ensure adequate wastewater infrastructure and services are available to serve new growth within the General Plan and City's Sphere of Influence.
- To plan for state-of-the-art facilities that reliably and economically meet the changing regulatory requirements.

For collection system improvements, the objectives of the updated WWMP may include:

- To increase sewer capacity to convey peak wet weather flows for a 10-year storm event, and where required, to serve future customers.
- To reduce wet weather flow volumes by removing cross connections with stormwater sewers.
- To extend service to new customers.
- To replace, repair, or rehabilitate existing trunk sewers, and to reduce infiltration and inflow of stormwater into the sanitary sewers.

- To improve sewer collection reliability by providing new and redundant infrastructure improvements, including sewer trunk lines and lift stations, in known deficient areas at critical areas within the existing system.

For treatment plant improvements, the objectives may include the following:

- To reduce flooding impacts at the Sutter Plant site and increase treatment process operational flexibility and efficiencies.
- To increase the capacity of the outfall connecting the primary and secondary treatment plants, and to provide increased reliability for the existing outfall.
- To increase treatment systems efficiency, reliability, and functionality for both domestic and cannery process stream flows.
- To increase or modify treatment systems to remain in compliance with existing Central Valley RWQCB's NPDES requirements and plan for potential future permitting regulations. (UAGP Policy VI.E.16).

MODESTO MUNICIPAL CODE

The City of Modesto Municipal Code, Chapter 6 (Wastewater Collection and Disposal) contains regulations associated with sewer management. The purpose of this chapter is to set forth uniform requirements for direct and indirect discharges of pollutants into the wastewater collection and treatment system for the City of Modesto which will enable the City to comply with all applicable State and federal laws, including the Clean Water Act (33 U.S.C. 1251 et seq.), and the General Pretreatment Regulations (40 CFR Part 403).

UTILITY MASTER PLANS

The City of Modesto maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *Wastewater Treatment Master Plan Supplement* (2008) and *Wastewater Collection System Master Plan (2007)*.

NPDES PERMIT NO. CA0079103, ORDER R5-2017-0064

The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by the EPA to perform many permitting, administrative, and enforcement aspects of the program. The City of Modesto is subject to waste discharge requirements under NPDES Permit No. CA0079103, Order R5-2017-0064 by the Regional Water Quality Control Board.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities and Service Systems if it would:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or

- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-3: General Plan implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (Less than Significant)

Currently, the City holds an NPDES permit from the Central Valley RWQCB that authorizes tertiary effluent discharges from the Jennings Plant to the San Joaquin River. The discharge is regulated through NPDES Permit No. CA0079103, Order R5-2017-0064. The NPDES permit allows tertiary treated wastewater discharge (up to 14.9 mgd currently and up to 19.1 mgd once the City completes upgrades to its existing Jennings Plant facilities) to the San Joaquin River (Central Valley RWQCB 2017). The City is also participating in the North Valley Regional Recycled Water Program (NVRRWP), which will provide recycled water to the Delta-Mendota Canal (DMC). The City's permit number R5-2017-0010 allows for discharge of up to 14.9 mgd of disinfected tertiary recycled water to the DMC under the NVRRWP. The treated water is conveyed from the Jennings Plant via pipeline to the DMC. In addition, the City holds WDRs (Order No. R5-99-112) that authorizes discharges to agricultural lands surrounding the Jennings Plant. The WDRs allows for irrigation of land using undisinfected secondary effluent and/or cannery process water. Additionally, the City holds a biosolids discharge permit (Order No. R5-94-030), which allows for Class B biosolids to be applied as a soil amendment at the Modesto Ranch.

Based on projected demand in the Baseline Developed Area, Downtown Area, and Planned Urbanizing Area under the UAGP, the Wastewater Treatment Master Plan estimates that average annual domestic wastewater flow would be approximately 25.6 mgd. Projected average annual dry weather flows are estimated at 34.4 mgd. These increases in domestic wastewater demand represent an increase of approximately 38 percent and 85 percent, respectively, over existing conditions of 18.5 mgd. The growth provided for under the UAGP will require sewer capacity improvements; plant improvements; replacement, repair or rehabilitation of trunk sewers; new sewer trunk lines, lift stations, and connection lines; and reliability improvements to the outfall pipelines.

The proposed Project does not change the existing Modesto's UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. The proposed Project does, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). Development accommodated under the UAGP would result in additional residents in the City. As described in Chapter 2.0, the UAGP is expected to accommodate up to 11,085 units within the city limits, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This

represents an increase of 8,530 units within the city limits at full buildout. Outside the city limits, but within the planning area, the existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units in the area outside the city limits but within the planning area. The total increase in housing capacity is estimated with be 21,837 units.

Therefore, based on a gallons per day rate of 120-250 gallons per day per unit, the projected range in wastewater generation would be between approximately 0.97 and 2.03 MGD depending on unit type and usage intensity under the UAGP. The projected flows of the UAGP are not expected to exceed the treatment capacity available for treatment. While full buildout of the development contemplated in the UAGP would slightly increase the existing treatment demand at the districts' treatment plants, the UAGP includes a range of policies designed to ensure an adequate wastewater treatment capacity for development. As described above, the City must also periodically review and update their Wastewater Master Plan, and as growth continues to occur within the Planning Area, the City will identify necessary system upgrades and capacity enhancements to meet growth.

The City has prepared a Wastewater Treatment Master Plan. The plan includes various capital improvement projects that are intended to ensure that sufficient sewer capacity is available to match the level of growth projected by the UAGP. The plan also describes new and upgraded collection and wastewater treatment facilities needed to accommodate the increased flows over the next 18-40 years and meet future demand for sanitary sewer services. As City wastewater treatment facilities are expanded to meet the needs of the Baseline Developed Area, Downtown Area, and Planned Urbanizing Area, the City will obtain the necessary wastewater discharge and NPDES permits from the Central Valley RWQCB. As required under UAGP policies, the City would comply with its current NPDES permit (Order No. R5-2017-0064, NPDES No. CA0079103) including the Central Valley RWQCB's requirement to cease all discharge of wastewater that is treated at less than tertiary levels. By complying with necessary wastewater discharge and NPDES permits from the Central Valley RWQCB as well as UAGP, the City would avoid violation of applicable wastewater treatment requirements. As a result, this impact would be ***less than significant***, and no mitigation is required.

The UAGP includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable wastewater collection and treatment system. The policies and actions listed below would further assist in ensuring that adequate wastewater treatment and conveyance infrastructure is available to serve new growth projected under the proposed General Plan.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. By complying with necessary wastewater discharge and NPDES permits from the Central Valley RWQCB as well as UAGP, the City would avoid violation of applicable wastewater

treatment requirements. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The following City policies are in effect and have been determined to reduce, avoid, or mitigate environmental impacts within the existing city limits and within the Planned Urbanizing Area as they annex and develop: SS-5 through SS-10, which address the Central Valley RWQCB's wastewater regulations; SS-11 through SS-24, which address protection of surface water and groundwater resources while providing wastewater services; SS-25, which addresses the City's WWMP update.

Impact 3.14-4: General Plan implementation would not require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

Development contemplated under the UAGP would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment facilities and conveyance infrastructure.

Based on projected demand in the Baseline Developed Area, Downtown Area, and Planned Urbanizing Area under the UAGP, the Wastewater Treatment Master Plan estimates that average annual domestic wastewater flow would be approximately 25.6 mgd. Projected average annual dry weather flows in 2057 are estimated at 34.4 mgd. These increases in domestic wastewater demand represent an increase of approximately 38 percent and 85 percent, respectively, over existing conditions of 18.5 mgd. The UAGP noted that provided growth will require sewer capacity improvements; plant improvements; replacement, repair or rehabilitation of trunk sewers; new sewer trunk lines, lift stations, and connection lines; and reliability improvements to the outfall pipelines. The current capacity of the City's wastewater treatment system is 81 million gallons per day (mgd) (including capacity for 40.2 mgd for cannery wastewater). As mentioned earlier, the peak wet weather wastewater flow was approximately 72.8 mgd.

Consistent with UAGP policies, the City has prepared the Wastewater Collection System Master Plan and Wastewater Treatment Master Plan, which include several improvements to the City's sewer collection system and upgrades to treatment facilities at the Sutter and Jennings plants that are needed to meet the City's projected sanitary sewer demands. Construction or expansion of such facilities could result in significant impacts. These improvement projects are necessary for providing sanitary sewer collection demands projected through 2057 and wastewater treatment needs through 2035, respectively.

The UAGP would also include incremental construction and improvements to the existing collection system. Subsequent expansion of the wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development and redevelopment under the UAGP. As future

development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the UAGP, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this impact would be ***less than significant***, and no mitigation is required.

The UAGP includes policies that would reduce impacts from construction of wastewater facilities. Impacts of these facilities are generally addressed in this EIR and the facilities would be subject to the applicable policies, any mitigation measures and impact conclusions in the respective resource chapter. To the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. To the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The following City policies are in effect and have been determined to reduce, avoid, or mitigate environmental impacts within the existing city limits and within the Planned Urbanizing Area as they annex and develop; SS-5 through SS-10, which address the Central Valley RWQCB's wastewater regulations; SS-11 through SS-24, which address protection of surface water and groundwater resources while providing wastewater services; SS-25, which addresses the City's WWMP update.

3.14.3 STORMWATER DRAINAGE

This section describes how development associated with the City of Modesto UAGP would affect demand for storm drainage. Section 3.9 (Hydrology and Water Quality) includes an expanded analysis of water quality, flooding, and other stormwater related issues.

STORMWATER

Storm water drainage systems are designed primarily to convey runoff that occurs during storm events. Impervious surfaces collect and concentrate stormwater discharges to various drainage systems. To a lesser extent, the drainage systems also help to dispose of excess water generated from urban uses such as street sweeping, residential watering, and other activities that generate runoff during drier months of the year. Proper control of stormwater runoff is important to reduce adverse effects from increased flooding, erosion, and transport of pollutants. The City is currently requiring developers to implement the concepts of Low Impact Development (LID) for all new development and redevelopment projects, as established in the City's Guidance Manual for New Development Stormwater Quality Control Measures. LID uses a variety of mechanisms to retain as much stormwater runoff on each individual site as possible. Runoff is infiltrated through the use of swales, vegetation, pervious pavement, french drains, rockwells, and other methods.

The City's storm drainage system includes approximately 77 miles of storm drain lines and 25 storm pump stations. Stormwater discharges from the City drain to 24 drainage basins and approximately 12 major outfalls (greater than 24 inches in diameter) to receiving waters (Tuolumne River or Dry Creek), Modesto Irrigation District (MID) laterals/drains, or rockwells. According to the City's Storm Drainage Master Plan (2008), surface water discharges generally occur in the older parts of Modesto or those areas immediately adjacent to the Tuolumne River, Dry Creek, or irrigation canals. Approximately 40 percent of stormwater gets discharged to detention/retention basins, 20 percent of stormwater gets directed to receiving waters, 10 percent is directed to MID laterals/drains, and 30 percent goes to rockwells.

Rockwells are designed to collect surface stormwater runoff and allow it to infiltrate to the groundwater. Rockwells are rock-lined holes that are typically 6 feet in diameter and up to 50 feet deep. There are approximately 10,500 rockwells in Modesto. The rockwells are generally unable to accommodate the amount of drainage generated in the existing developed areas. In addition, the cost of maintenance for rockwells is high and the U.S. Environmental Protection Agency (EPA) regulations for rockwells are becoming more stringent. Consequently, the City is generally requiring gravity stormwater systems to be installed in the existing urban areas. The City of Modesto's Guidance Manual for Development Stormwater Quality Control Measures includes guidance for how development projects can implement infiltration wells for the purpose of stormwater runoff treatment and retention. These areas must be served by positive gravity stormwater drainage systems.

Many of the City's storm drainage pipelines are interconnected with sanitary sewer lines. After storm events, these cross-connections typically increase substantially with peak flows. As part of the City's Wastewater Master Plan, the City plans to decrease these peak flows in the sanitary sewer

system by disconnecting up to 60 of these interconnections. Some improvements may include installing new storm drainage pipes, detention basins, and various underground storage and percolation methods.

The City monitoring and reporting program for the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems (MS4) permit is issued pursuant to Water Code Section 13267. To comply with the City's MS4 permit (NPDES No. CAS083526, Order No. R5-2015-0025) and monitoring and reporting program, the City is responsible for assessing the point-source runoff from Modesto. The City's drainage facilities are unique since only one-third of the City drains into surface water while the remaining drainage goes to rock wells. The MS4 permit and monitoring and reporting program apply to both water quality and drainage for the City. As part of the Monitoring Program, the City is required to collect water quality data from representative outfalls and estimates of annual pollutant loads of cumulative discharges to waters of the U.S. from identified municipal outfalls. Besides including a comprehensive assessment of water quality data, the Comprehensive Monitoring Report also identifies Best Management Practices (BMPs) contained in the drainage facilities that help reduce pollutant loading.

The City has been required to do a Peak Discharge Impact Study (PDIS) by the MS4 Permit. The purpose of the PDIS is to determine the extent of erosion of the natural streams from the City stormwater runoff. The City has developed a work plan to conduct a PDIS to determine the extent of erosion of natural stream channels and banks caused by urban runoff on both the Dry Creek and Tuolumne Rivers. In previous studies, the City has determined erosion was minimal based on aerial photos of Dry Creek. This work plan also evaluates peak flow control and determines numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urban runoff.

Section V-10, Flooding and Water Quality, provides a discussion of EPA policies and the Central Valley Regional Water Quality Control Board (Central Valley RWQCB) administration of the NPDES permitting program which governs the City's pollution control and management programs for stormwater discharges throughout the urban area. Section V 10 also describes the EPA's Underground Injection Control (UIC) program, which governs stormwater quality management policies for the numerous rockwells located throughout the City of Modesto. In 2012, the City prepared a Rock Well Assessment Plan, which was designed to evaluate the effectiveness of the rockwells in removing pollutants and protecting groundwater quality.

Plans and specifications for new stormwater facilities within Modesto are reviewed and approved by the City's Community and Economic Development Department. Development of storm drainage facilities are required to be installed in compliance with BMPs outlined in the City's Comprehensive Stormwater Management Program (CSMP), Guidance Manual for New Development Stormwater Quality Control Measures and as outlined in the City's Design Standards for Dual Use Flood Control/Recreation Facilities.

REGULATORY SETTING - STORMWATER DRAINAGE

Federal

CLEAN WATER ACT (CWA)

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the San Joaquin River, and other waters in the Manteca Planning Area. In the Manteca Planning Area, the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Manteca Planning Area were established by the RWQCB and are listed in its Basin Plan.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the

Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to ensure the proper implementation of FEMA floodplain management regulations.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

A new Phase II Small Municipal Separate Storm Sewer (MS4) General Permit was adopted by the State Water Resources Control Board on April 17, 2015, became effective June 1, 2015. The Permit has numerous new components and the City is required to implement these components in stages over the five-year period of the Permit.

State

DEPARTMENT OF WATER RESOURCES

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property,

educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a state drought water bank.

CALIFORNIA WATER CODE

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
>
> > (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
> >
> > (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
> >
> > (3) A person operating, or proposing to construct, an injection well.
>
> (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

WATER QUALITY CONTROL PLAN (BASIN PLAN) FOR THE CENTRAL VALLEY REGION

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

STATE WATER RESOURCE CONTROL BOARD (STATE WATER BOARD) STORM WATER STRATEGY

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board's role in storm water resources management. The Storm Water Strategy developed guiding principles to serve as the foundation of the storm water program; identified issues that support or inhibit the program from aligning with the guiding principles; and proposed and prioritized projects that the Water Boards could implement to address those issues. The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board's Storm Water Program.

Regional

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

The Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES permitting program within the Central Valley Region. As part of this role, the Central Valley RWQCB issued the City's municipal stormwater permit—or MS4 permit—on May 5, 2015, regulating the discharges of stormwater from the City's municipal storm drain system. This permit includes requirements for the City to implement a Planning and Land Development Program, under which development projects (both public and private) that meet specified size thresholds must include

permanent stormwater treatment facilities that are hydraulically sized in accordance with numeric sizing criteria included in the permit. The City's MS4 permit also requires the City to implement a Construction Program, under which the City must require BMPs to control sediment and pollutants from construction sites (both public and private) as specified in the permit. Construction activities that disturb one acre or more of land are also regulated under the statewide Construction General Permit, NPDES No. CAS000002, Order No. 2009-0009 DWQ, issued by the State Water Resources Control Board (SWRCB) on September 2, 2009, as amended. This permit requires construction projects that disturb one acre or more of land to implement stormwater pollution prevention plan (SWPPP) requirements for the control of pollutants and pollutant sources associated with construction activity.

Local

STANISLAUS COUNTY POLICIES

The Stanislaus County Department of Public Works reviews and approves drainage plans involving County roadways that may pass through the Modesto urban area. The Storm Drainage Master Plan for Stanislaus County addresses storm drainage issues within the county.

CITY OF MODESTO POLICIES

The UAGP provides the following policies related to storm drainage:

> SD-2: Prepare and adopt a Storm Drainage Master Plan to cover the entire City Sphere of Influence. (UAGP Policy VI.F.1)
>
> SD-3: Require stormwater drainage infrastructure master plans for the public infrastructure or when otherwise pertinent to provision of service at adopted service levels for projects depending on site issues and location-specific concerns. (UAGP Policy VI.F.2)
>
> SD-4: New storm drainage infrastructure may be by means of gravity storm drainage systems, as approved by the City Engineer. Such new storm drainage facilities should consider the drainage facility requirements presented in Table V-9-1 of the Final Master Environmental Impact Report, the City's current NPDES permit and the Storm Drainage Master Plan. (UAGP Policy VI.F.3)
>
> SD-5: As directed by the City Engineer, dual-use flood control / recreation facilities may be developed (dual-use facilities) as part of the storm drainage system. Dual-use facilities should be designed and constructed in accordance with the standards in the City of Modesto Design Standards for Dual Use Flood Control / Recreation Facilities manual. (UAGP Policy VI.F.4)
>
> SD-6: Minimize impervious surfaces and generally maximize infiltration of rainwater in soils, to promote groundwater recharge, where appropriate. Strive to maximize permeable areas to allow more percolation of runoff into the ground through such means as bioretention areas, green strips, planter strips, decomposed granite, porous pavers, swales, and other water permeable surfaces. Require planter strips between the street and the sidewalk within the community, wherever practical and feasible. (UAGP Policy VI.F.5)

SD-7: Update the City's Standard Specifications to reflect the latest Low Impact Development strategies and encourage a reduction in storm water runoff by encouraging storm water infiltration where feasible. (UAGP Policy VI.F.6)

SD-8: Meet the requirements of acceptable urban storm runoff as established by the Central Valley Regional Water Quality Control Board Basin Plan for surface discharges, and the Environmental Protection Agency for underground injection. (UAGP Policy VI.G.1)

SD-9: Construct, operate, maintain, and replace storm water drainage facilities in a manner that will provide the best possible service to the public, as required by federal and state laws and regulations. In developing implementation plans, consideration shall be given to rehabilitation of existing facilities, remediation of developed areas with inadequate levels of drainage service, and timely system expansion for future development. (UAGP Policy VI.G.2)

SD-10: Construction activities shall comply with the requirements of the City's Stormwater Management Plan under its municipal NPDES stormwater permit, and the State Water Resources Control Board's General Permit for Discharges of Storm Water Associated with Construction Activity. (UAGP Policy VI.G.3)

SD-11: For developments within a mapped 100-year floodplain, prepare studies that demonstrate how the development will comply with both the construction and post construction programs under the City's municipal NPDES permit. No increased erosion or release of other contaminants that would cause violations of the City's municipal NPDES permit should occur as a result of development. (UAGP Policy VI.G.4)

SD-12: Ensure that new development complies with the City of Modesto's Stormwater Management Program: Guidance Manual for New Development Stormwater Quality Control Measures. (UAGP Policy VI.G.5)

SD-13: Require new development to implement an appropriate selection of permanent pollution control measures in accordance with the City's implementation policies for the municipal NPDES stormwater permit. (UAGP Policy VI.G.6)

SD-14: Design development projects to preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands and buffers. Minimize disturbance of natural water bodies or natural drainage systems that might result from development, including road construction. (UAGP Policy VI.G.7) SD-15: Integrate Low Impact Development principles into proposed development projects' design. Low Impact Development is a storm water management and land development strategy that promotes conservation and use of natural on-site features combined with engineered small-scale hydrologic devices. In designing development projects, minimize the amount of impervious surface in order to maximize on-site infiltration of stormwater runoff and minimize the potential for storm water runoff from the site. (UAGP Policy VI.G.8)

The following tables identify standards referenced in the UAGP that will apply to future development.

TABLE 3.14-13: REQUIREMENTS FOR DRAINAGE PLANS

ORDER	*REQUIREMENT*
A	The plan shall be based on a drainage study prepared by a qualified engineer and shall be implemented in all construction projects where the drainage study indicates a need.
B	The drainage study shall identify 100-year flood elevations before and after development, location and available capacity of any existing drainage systems, and the volume and rate of water flows created by the proposed project during a 100-year storm.
C	The study shall also provide the location and capacity of retention/detention basins and/or drainage channels to accommodate the increment in water flows and siltation created by the project.
D	The plan shall include water quality control measures to ensure that minimal contaminants get discharged to surface streams or percolated into the ground.
E	The water quality control measures shall address both construction and operation periods.
F	The plan shall be implemented as part of a proposed project prior to occupancy permit issuance and during the life of the project.
G	Fluvial erosion related to construction is controlled by a construction erosion control program that shall be filed with the City Utilities Department and kept current throughout any site development phase.
H	The erosion control program shall include BMPs as appropriate, given the specific circumstances of the site and/or project. The City shall consult Table V-9-2 in the Master EIR for examples of BMPs.
I	Sediment control basins that capture and contain eroded sediments on project sites shall incorporate design criteria listed in Table V-9-3 in the Master EIR.
J	A stormwater management program (SWMP) shall be prepared for the operation of all proposed land development projects and shall be utilized to obtain an NPDES permit and be incorporated into the Drainage Plan. The SWMP shall utilize measures selected from Table V-9-4 in the Master EIR.

NOTES: THIS TABLE DOES NOT USE THE STANDARD NOMENCLATURE FOUND ELSEWHERE IN THIS DOCUMENT IN ORDER TO BE CONSISTENT WITH THE REFERENCE CONTAINED IN THE UAGP.

The following tables identify standards referenced in the UAGP that will apply to future development.

TABLE 3.14-14: EXAMPLES OF CONSTRUCTION SITE BEST MANAGEMENT PRACTICES

ORDER	*REQUIREMENT*
A	Implement effective erosion control measures, such as minimizing long, unbroken flow paths by placing transverse gravel bag lines or installing transverse straw wattle lines across flow paths.
B	Make drainage swales broad and flat to reduce hydraulic efficiency.
C	Control offsite drainage and route it around disturbed areas, including newly graded areas.
D	Provide a system of berms along the tops of slopes, combined with properly designed swales or other conveyance measures, to prevent water from running uncontrolled down the slopes.
E	Collect the water in these berms and take it down the slopes in a non-erosive manner.

F	Provide energy dissipaters and erosion control pads at the bottom of downdrains.
G	Implement effective sediment control measures, such as directing site drainage into a sediment control basin before releasing it from the site.
H	Install permanent landscaping, as soon as practical, after the completion of grading.
I	Maintain facilities, including stormwater best management practices, in operable condition at all times.
J	Inspect facilities at the end of each workday to ensure they are ready for service.

NOTES: THIS TABLE DOES NOT USE THE STANDARD NOMENCLATURE FOUND ELSEWHERE IN THIS DOCUMENT IN ORDER TO BE CONSISTENT WITH THE REFERENCE CONTAINED IN THE UAGP.

TABLE 3.14-15: DESIGN CRITERIA FOR SEDIMENT CONTROL BASINS

ORDER	*REQUIREMENT*
A	Provide 15 cubic yards of sediment storage per acre of tributary drainage area.
B	Provide an erosion-proof spillway from the basin to a protected outlet.
C	Do not provide a drain in the basin since this would allow some sediment to escape.
D	If site conditions permit, build an oversize basin so it will not have to be cleaned out during the life of the grading project.
E	Maintain and clean out basin as necessary.
F	Inspect the basin at end of each work day to assure it is in working order.

NOTES: THIS TABLE DOES NOT USE THE STANDARD NOMENCLATURE FOUND ELSEWHERE IN THIS DOCUMENT IN ORDER TO BE CONSISTENT WITH THE REFERENCE CONTAINED IN THE UAGP.

TABLE 3.14-16: MEASURES THAT CAN BE INCORPORATED INTO A SWMP

ORDER	*REQUIREMENT*
A	Educate the public regarding the problem of contaminants in urban runoff and solutions they can utilize to reduce the number of contaminants in urban runoff.
B	Design projects to direct runoff from impervious surfaces to areas of landscaping, where feasible.
C	Promote efficient and safe housekeeping practices when handling fertilizers, pesticides, cleaning solutions, paint products, automotive products, and swimming pool chemicals. These substances should be utilized and stored according to labels and instructions and should not be disposed of in a manner that will allow them to contaminate storm flows.
D	Minimize the use of and utilize the least harmful fertilizers, pesticides, cleaning solutions, automotive and paint products where alternatives exist.
E	Hazardous materials shall be stored as follows: in the minimum amount necessary; in designated areas; utilizing secondary containment; and shall be subject to regular inspections.
F	Employees and contractors shall be trained in appropriate storage methods and procedures for spill cleanup.
G	Discourage illegal dumping by identifying elements of the drainage system with a sign prohibiting dumping and indicating the reason for the sign.
H	Coordinate with private industry to establish used oil disposal facilities for recycling of bulk used oil.
I	Project operators shall ensure that vehicle maintenance occurs in appropriate facilities and that spills are reduced, contained, and cleaned up before they contaminate urban runoff.

J	Discharge of pollutants to storm water from above ground storage tanks shall be minimized by installation of secondary containment, regular inspections, and training in spill cleanup techniques.
K	Prevent unwarranted physical connections to the storm drain system from sanitary sewer, and floor drains through regulation, inspection, testing, and education.
L	Identify and repair sewer blockages, infiltration, inflow, and wet weather overflows from sanitary sewers to the stormwater drain system.
M	Reduce the discharges of pollutants from roadway and parking lot surfaces by conducting street cleaning on a regular basis.
N	Maintain catch basins and stormwater inlets on a regular basis to remove pollutants and restore basin sediment trapping capacity.
O	Regularly remove illegally dumped items and materials from storm drainage canals and creeks.
P	Identify low impact development facilities, such as bioretention areas, as facilities to utilize in drainage systems where conditions permit.
Q	Wet ponds (i.e., permanent water pools used to treat incoming stormwater) or constructed wetlands shall be utilized where warranted and conditions permit.
R	Vegetated channels and strips shall be incorporated into drainage plans.
S	Media filtration should be utilized where sediment is a problem and there is no other adequate alternative sediment-control method available.
T	Oil/water separators shall be installed and maintained in all facilities where automotive maintenance or industrial facilities result in oil release.
U	Vehicle fueling and washing facilities, including steam cleaning, shall utilize concrete floors, protected from the rain and drained to a sump to assure contaminants are contained.
V	Outdoor container storage of liquids and outdoor equipment shall include a dike to contain spills and storm water and be covered to minimize storm water in the area.
W	Outdoor storage shall be covered, have secondary equipment and be designed to prevent stormwater runoff.

NOTES: THIS TABLE DOES NOT USE THE STANDARD NOMENCLATURE FOUND ELSEWHERE IN THIS DOCUMENT IN ORDER TO BE CONSISTENT WITH THE REFERENCE CONTAINED IN THE UAGP.

MODESTO MUNICIPAL CODE, CHAPTER 10 - STORM WATER MANAGEMENT AND DISCHARGE CONTROLS

Chapter 10 of the Modesto Municipal Code regulates stormwater management to prevent pollution, protect water quality, and maintain public health. It prohibits non-stormwater discharges into the storm drain system, requiring certain activities—like construction and industrial operations—to follow best management practices (BMPs) to control runoff pollution. The city conducts inspections, monitors discharges, and enforces compliance through penalties, fines, and cleanup costs as needed. Additionally, public education and outreach efforts promote awareness and community engagement in protecting water resources.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-5: General Plan implementation would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

The City has identified existing drainage inadequacies in the Baseline Developed Area and Downtown Area linked to the historic use of rockwells. In the Planned Urbanizing Area, new facilities are needed to serve anticipated urban development. Planned urban development in the Modesto planning area, and the associated increase in impervious areas created by pavement and structures, has the potential to increase the rate or amount of runoff in a manner that could result in flooding in the urban area.

The potential impacts on storm drainage that could occur from the project were qualitatively evaluated with respect to several factors, including the extent of the projected increase in urban surface area compared to undeveloped ground, the magnitude of projected changes to hydrologic and physical site characteristics of the study area compared to existing conditions, the regulatory criteria and guidelines, and professional judgment.

According to the City's Storm Drainage Master Plan (2008), surface water discharges generally occur in the older parts of Modesto or those areas immediately adjacent to the Tuolumne River, Dry Creek, or irrigation canals. The City is required to conduct a PDIS to determine the extent of erosion of natural stream channels and banks caused by urban runoff on Dry Creek and the Tuolumne River, evaluate peak flow control, and determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urban runoff. Planned urban development in the Modesto planning area, and the associated increase in runoff, have the potential to exceed the capacity of storm drainage systems or provide substantial additional sources of polluted runoff.

The potential impacts on storm drainage capacity and potential increases in pollutant discharge that could occur from the project were evaluated qualitatively with respect to several factors, including the extent of the projected increase in urban surface area compared to undeveloped ground, the magnitude of projected changes to hydrologic and physical site characteristics of the study area compared to existing conditions, the regulatory criteria and guidelines, and professional judgment. Based on the above threshold of significance, the potential impacts of the UAGP on storm drainage capacity and pollutant discharge are considered less than significant because the UAGP includes policies that require the City to prepare and adopt a Storm Drainage Master Plan (SD-2), and require new development in all three sections of the planning area to prepare stormwater drainage infrastructure master plans based on site issues and location-specific concerns (SD-3), install approved drainage facilities that comply with federal and state regulations, and have sufficient capacity to accommodate any increases in runoff (SD-4, SD-9).

Stormwater runoff quality must meet the RWQCB's standards for acceptable urban runoff (SD-8), and new development must comply with the City's Guidance Manual for Development Stormwater Quality Measures (2011) (SD-12). Policies SD-10, SD-11, and SD 13 require construction and new development to comply with pollutant discharge requirements of the City's NPDES stormwater permit including permanent pollution prevention measures that require appropriate selection of permanent stormwater treatment facilities based on the size of each new development. New development must also comply with EPA's Low Impact Development principles (SD-14, SD-15). As a result, the project is not expected to exceed the capacity of existing or planned storm drainage systems or provide substantial additional sources of polluted runoff.

Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded drainage facilities cannot be determined at this time, as the General Plan does not propose or approve any specific development project, nor does it designate specific sites for new or expanded public facilities.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan as discussed throughout this Draft EIR, including in Chapters 3.1 through 3.14 and 3.16 through 4.0.

New development is required under the UAGP to install storm drainage facilities that restrict the amount of post-development runoff from exceeding predevelopment conditions. In the Planned Urbanizing Area, this will include the installation of dual-use facilities that will provide recreational opportunities as well (SD-5). Development projects are required to minimize impervious surfaces and maximize infiltration of rainwater in soils (SD-6). Pursuant to the RWQCB's recent directive, the City's Standard Specifications will be updated to incorporate LID design elements (SD-7, SD-15) and require developers to implement LID treatments in accordance with the City's Guidance Manual for Development Stormwater Quality Measures (2011) (SD-12). By implementing these policies, the anticipated increase in the rate and amount of surface runoff due to new development would not create flooding on- or off-site.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this is a ***less than significant*** impact and no mitigation is required.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The following policies are in effect and have been determined to reduce, avoid, or mitigate environmental impacts within the existing city limits and within the Planned Urbanizing Area. County policies are included because they reduce or avoid cumulative impacts. The policies listed below would further ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts: County policies avoiding impacts related to storm drainage are summarized in Modesto policy SD-1; Modesto policies SD-2 through SD-15 would ensure the following: that there would be adequate storm drainage capacity; that MID would be consulted during preparation of additional drainage studies; that polluted surface discharges would be minimized; that new storm drainage infrastructure meet requirements of the City's municipal NPDES stormwater permit; and, that Low Impact Development principles would be incorporated into design for new development.

3.14.4 SOLID WASTE

Two private firms are currently engaged in the collection and transport of solid wastes in Modesto. Gilton Solid Waste Management and Bertolotti Disposal provide hauling and interim transfer stations for Modesto's waste disposal, transformation, and diversion streams. A third hauler, Bonzi Disposal, hauls industrial waste. Solid waste generated by the City is primarily disposed of at the Stanislaus Resource Recovery Facility (SRRF), the adjoining Fink Road Landfill located near Crows Landing, approximately 25 miles southwest of Modesto, and Forward Landfill, Inc. other landfills include Altamont Landfill, American Avenue Disposal Site, Vasco Road Sanitary Landfill, Avenal Regional Landfill, Azusa Land Reclamation, Recology Hay Rd., Highway 59 Disposal Site, Keller Canyon Landfill, Portero Hills Landfill, Sacramento County Landfill, Bill Wright Disposal Site, Foothill Sanitary Landfill, North County Landfill and L&D Landfill.

KEY TERMS

Class I landfill: A landfill that accepts for disposal 20 tons or more of municipal solid waste daily (based on an annual average); or one that does not qualify as a Class II or Class III municipal solid waste landfill.

Class II landfill: A landfill that (1) accepts less than 20 tons daily of municipal solid waste (based on an annual average); (2) is located on a site where there is no evidence of groundwater pollution caused or contributed by the landfill; (3) is not connected by road to a Class I municipal solid waste landfill, or, if connected by road, is located more than 50 miles from a Class I municipal solid waste landfill; and (4) serves a community that experiences (for at least three months each year) an interruption in access to surface transportation, preventing access to a Class I landfill, or a community with no practicable waste management alternative.

Class III landfill: A landfill that is not connected by road to a Class I landfill or a landfill that is located at least 50 miles from a Class I landfill. Class III landfills can accept no more than an average of one ton daily of ash from incinerated municipal solid waste or less than five tons daily of municipal solid waste.

Transfer station: A facility for the temporary deposition of some wastes. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal or treatment.

WASTE DISPOSAL

In 2022, the City of Modesto disposed of approximately 250,063 tons of solid waste. The per capita population waste generation rate increased from 5.0 to 5.3 lbs/person/day and per capita employment waste generation rate increased from 13.6 to 14.6 lbs/person/day over the 4-year (2018-2022) period.

Solid waste generated by the City is primarily disposed of at the Stanislaus Resource Recovery Facility (SRRF), the adjoining Fink Road Landfill located near Crows Landing, approximately 25 miles

southwest of Modesto, and Forward Landfill, Inc., located in the City of Manteca. Various other landfills accepted the City's solid waste, including Altamont Landfill, American Avenue Disposal Site, Vasco Road Sanitary Landfill, Avenal Regional Landfill, Azusa Land Reclamation, Recology Hay Rd., Highway 59 Disposal Site, Keller Canyon Landfill, Portero Hills Landfill, Sacramento County Landfill, Bill Wright Disposal Site, Foothill Sanitary Landfill, North County Landfill and L&D Landfill. The City of Modesto landfills are summarized in Table 3.14-17.

TABLE 3.14-17: CITY OF MODESTO LANDFILL SUMMARY

LANDFILL	*LOCATION*	*MAXIMUM DAILY THROUGHPUT (TONS/DAY)*	*REMAINING CAPACITY (CUBIC YARDS)*	*ANTICIPATED CLOSURE DATE*
Fink Road Landfill	Crows Landing	2,400	19.0 million	2050
Forward Sanitary	Manteca	8,668	22.1 million	2036

SOURCE: CAL RECYCLE. ACCESSED OCTOBER 2024.

As of recent data, the City of Modesto's diversion rate is aimed at meeting state mandates, such as the 50% diversion required by California's Assembly Bill (AB) 939, which has been in place since 2000. Modesto also participates in efforts to comply with newer regulations like SB 1383, which sets a target for reducing organic waste sent to landfills by 75% by 2025. In accordance with AB 939, which required municipalities to aggressively pursue MSW source reduction and recycling, the City continues to meet and exceed all AB 939 goals. The various solid waste management actions adopted by the City include, but are not limited to, recycling and yard waste programs for residents and businesses, public education and public outreach awareness events, and school recycling and composting.

SB 1016 then further built upon AB 939 by implementing modified performance measures. To continue to meet this mandate, the City's plan calls for the following programs:

1. Promotion of source reduction;
2. Development of material recovery facilities;
3. Active curbside recycling and local buy-back programs;
4. Composting of organics;
5. Business/industrial recycling;
6. Cannery waste diversions for animal feed, land spreading, or alternative fuel production;
7. Recycling in schools and recycling education;
8. Wood waste diversion (wood is ground and sold as fuel);
9. Diversion of inert materials such as concrete for use as road base materials; and,
10. Establishment of markets for recycling/composted material.

Under AB 939, waste-to-energy facilities, such as the SRRF, are considered to be transformation facilities (as opposed to recycling facilities). Consequently, the City receives diversion credit for 10 percent of the volume of waste diverted to the SRRF.

An estimated 10,000 to 20,000 dry tons of biosolids are generated each year at the City's wastewater treatment plant and are beneficially reused as soil amendment under Waste Discharge Requirements Order 94-030.

REGULATORY SETTING – SOLID WASTE

Federal

RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the current Act governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA was an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

State

CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT (AB 939 AND SB 1322)

The California Integrated Waste Management Act, AB 939 requires that counties and municipalities divert at least 25 percent of their solid waste from landfills by 1995 and at least 50 percent by 2000. Programs to reach these goals include the promotion of source reduction, development of materials-recovery facilities, curbside recycling and local buy-back programs, cannery-waste diversions for animal feed and land spreading and alternative fuel production, recycling in schools and recycling education, composting of organics, business/industrial recycling, wood waste diversion, diversion of inert materials such as concrete, and establishment of markets for recycling/composted material. Landfills operate under permits issued by CalRecycle.

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD MODEL ORDINANCE

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a "model ordinance" relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include "adequate, accessible, and convenient areas for collecting and loading recyclable materials." For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

CALIFORNIA MANDATORY COMMERCIAL RECYCLING LAW (AB 341)

Assembly Bill (AB) 341 directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. The purpose of AB 341 is to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California.

Beginning on July 1, 2012, businesses have been required to recycle, and each jurisdiction has implemented programs that include education, outreach, and monitoring. Jurisdictions were required to start reporting on their 2012 Electronic Annual Report (due August 1, 2013) on their initial education, outreach, and monitoring efforts, and, if applicable, on any enforcement activities or exemptions implemented by the jurisdiction.

In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not written as a 75 percent diversion mandate for each jurisdiction. The 50 percent disposal reduction mandate still stands for cities, counties, and State agencies (including community colleges) under AB 939. CalRecycle continues to evaluate program implementation as it has in the past through the Annual Report review process for entities subject to either AB 939.

ASSEMBLY BILL 1826 MANDATORY COMMERCIAL ORGANICS RECYCLING

In October 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (please note, however, that multi-family dwellings are not required to have a food waste diversion program). Organic waste (also referred to as organics) means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Starting on January 1, 2019, businesses that generate 4 cubic yards or more of commercial solid waste per week shall arrange for organic waste recycling services. By Summer/Fall 2021, if CalRecycle determines that the statewide disposal of organic waste in 2020 has not been reduced by 50 percent of the level of disposal during 2014, the organic recycling requirements on businesses will expand to cover businesses that generate 2 cubic yards or more of commercial solid waste per week. Additionally, certain exemptions may no longer be available if this target is not met.

SB 1374 (CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERSION)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (MONTANEZ, CHAPTER 879, STATUES OF 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and

2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

SENATE BILL 1383 SHORT-LIVED CLIMATE POLLUTANTS: ORGANIC WASTE METHANE EMISSIONS REDUCTIONS

In September 2016, Governor Brown signed SB 1383, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The bill codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605, in order to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to solid waste, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

Local

STANISLAUS COUNTY POLICIES

The territory outside the City limits is under Stanislaus County jurisdiction. The Stanislaus County General Plan has the following applicable policies:

> SW-2: Future growth shall not exceed the capabilities / capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc. (County General Plan, Land Use Element, Policy Twenty-Four)
>
> SW-3: Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting, and transformation activities. (County General Plan, Conservation and Open Space Element, Goal Seven)
>
> SW-4: The County will protect existing solid waste management facilities, including the waste-to-energy plant, unless such projects would have no adverse impacts on those facilities and vice-versa. (County General Plan, Conservation and Open Space Element, Policy Twenty-Three)
>
> SW-5: Conserve resources through promotion of waste reduction, reuse, recycling, composting, ride-share programs, and alternative energy sources such as mini hydroelectric plants, gas and oil exploration, and transformation facilities such as waste-to-energy plants. (County General Plan, Conservation and Open Space Element, Goal 11).

CITY OF MODESTO POLICIES

The UAGP provides the following policies related to solid waste:

> SW-6: Continue to comply with the requirements of Assembly Bill 939 which mandates the diversion of solid waste of 50% by 2000, by way of source reduction, recycling, composting, and transformation. (UAGP Policy VI.L.1)
>
> SW-7: Continue to participate in the existing Household Hazardous Waste Programs, including support of the drop-off facility, continued public information, participation in the oil and battery collection programs, and implementation and enforcement of existing and new regulations regarding electronic and universal waste legislation. (UAGP Policy VI.L.2)
>
> SW-8: Continue to comply with Stanislaus County's Hazardous Waste Management Plan. (UAGP Policy VI.L.3)

SW-9: Provide for the safe collection and disposal of all solid waste generated in the City of Modesto, at rates comparable to or less than elsewhere in the state and ensure that there is access to the appropriate disposal facilities for the City's long-term needs. Garbage service should be provided to all residences and businesses within the City of Modesto. (UAGP Policy VI.L.4)

SW-10: To meet the waste-disposal demands of the growing population, continue to seek alternative waste disposal methods for solid waste, including transformation, composting, and alternative energy conversion technologies. (UAGP Policy VI.L.5)

SW-11: In addition to the Solid Waste Disposal Policies in place for the Baseline Developed Area, as outlined above, the City should also consider implementing local land-use incentives and zoning / building code modifications to encourage source reduction, recycling, and composting and to provide adequate space for containers. Such measures to be considered include a Construction and Demolition Recycling Ordinance, an ordinance and incentive program for Green Building Projects, and compliance with mandatory recycling for commercial / industrial waste and organics recycling per AB 341 and AB 1826. (UAGP Policy VI.L.6)

MODESTO MUNICIPAL CODE, TITLE 5: SANITATION AND HEALTH

Title 5, Sanitation and Health, of the Modesto Municipal Code focuses on public sanitation and health regulations within the city. It encompasses various chapters dedicated to ensuring health standards, including waste management, wastewater collection, disposal, and animal control. Specific sections cover topics like solid waste collection, stormwater management, and animal-related health concerns, such as pet ownership and the control of vicious animals. Additionally, Title 5 outlines requirements for businesses like massage establishments and adult entertainment venues to maintain proper health and sanitation conditions. Enforcement is carried out by authorized health officers, ensuring compliance with state and local health mandates.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure (Less than Significant)

The development of future land uses under the UAGP would increase solid waste disposal needs and could have the potential to require the construction of new landfill facilities, or expansion of existing facilities.

The proposed Project does not change the existing Modesto's UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. The proposed Project does, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). Development accommodated under the UAGP would result in additional residents in the City. As described in Chapter 2.0, the UAGP is expected to accommodate up to 11,085 units within the city limits, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This represents an increase of 8,530 units within the city limits at full buildout. Outside the city limits, but within the planning area, the existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units in the area outside the city limits but within the planning area. The total increase in housing capacity is estimated with be 21,837 units.

Therefore, the proposed Project would result in a generation of a total of approximately 10,768 tons of solid waste per year, utilizing CalRecycle solid waste generation rates for single family and multi-family units. Per 2004 CIWMB-accepted diversion rate, the City is diverting approximately 54 percent of its solid waste stream through source reduction, recycling, composting, and transformation. The City can expect to send approximately 2.5 million tons of waste to the SRRF to Covanta Stanislaus, Inc., and deposit approximately 2.5 million tons of waste into landfills. Because growth and development consistent with the UAGP a would not exceed the combined available capacities of these landfills through 2040, any related impact(s) would be less than significant. Provision of solid waste disposal services that would be associated with growth and development consistent with the proposed General Plan amendment would not violate any existing federal, state or local statue or regulation related to solid waste. The proposed Project's compliance with all applicable federal, state and local statues and regulations would avoid any related impacts.

Flink Road Landfill has a remaining capacity of 19,000,000 cubic yards and has a current maximum permitted throughput of 2,400 tons per day. This landfill has a cease operation date in the year 2050. Forward Sanitary Landfill has a remaining capacity of 22,100,000 cubic yards and has a current maximum permitted throughput of 8,668 tons per day. This landfill has a cease operation date in

the year 2036. The additional solid waste generation associated with the UAGP, to the Forward and Flink Road Landfills would not exceed either remaining capacity.

While there are no plans for landfill construction or expansion associated with the UAGP, development of new solid waste disposal facilities could result in environmental effects in areas such as traffic, hydrology, biology, air quality, greenhouse gases, and noise. Any future construction projects would be required to conduct environmental review pursuant to CEQA prior to approval. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the UAGP, Municipal Code, and other applicable regulations associated with solid waste. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The UAGP includes actions to further minimize the project's potential for impact on solid waste services, as identified below. As such, this impact would be ***less than significant***, and no mitigation is required.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the UAGP, Municipal Code, and other applicable regulations associated with solid waste. Therefore, it would not change the previous impact determination of ***less than significant***.

POLICIES ADOPTED TO AVOID, MINIMIZE, OR MITIGATE SIGNIFICANT EFFECTS

The proposed UAGP Policies (SW-6 through SW-11) would avoid impacts by reducing the quantity of solid waste generated so that state diversion objectives continue to be met, and that solid waste does not exceed landfill capacity during the planning period.

This Page Intentionally Left Blank.

CEQA requires an EIR to evaluate a project's effects in relationship to broader changes that are occurring or that may foreseeably occur, in the surrounding environment. Accordingly, this chapter presents discussion of CEQA-mandated analysis for cumulative impacts, irreversible impacts, and growth inducement associated with the proposed Urban Area General Plan (UAGP).

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the General Plan. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable," as defined in Section 15065(a)(3), means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created because of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

> 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 local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Modesto Planning Area, which for the purposes of the General Plan includes the geographic area for which the General Plan provides a framework for long-term plans for growth, resource conservation, and continued agricultural activity. State law requires the General Plan to include all territory within Modesto's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the Modesto UAGP includes the entire City Limits and the City's SOI, as shown on Figure 2.0-2 (see Chapter 2.0: Project Description). It should be noted that, for some environmental topics, the geographic scope for the cumulative analysis also covers the boundaries of Stanislaus County, the San Joaquin Valley Air Basin, and/or other jurisdictional boundaries that are relevant to the environmental topic.

In most cases in this EIR, the buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan. The year 2040 is used as the benchmark year for the cumulative analysis contained in this EIR. This year was chosen since the UAGP was developed with the intention to guide the physical development of the overall Modesto community to year 2040.

Growth Projections

The proposed Project does not change the existing Modesto's UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. The proposed Project does, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional housing capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). This additional housing capacity is a directive of the recently adopted Housing Element, which was prepared in compliance with new state laws and the assigned RHNA. Table 2.0-2 of Chapter 2.0, Project Description, presents the existing and proposed densities and realistic yield for vacant and underutilized parcels within the City limits with these zoning designations. The existing realistic yield is 11,085 units, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This represents an increase of 8,530 units.

While there are no zoning designations for land outside the city limits, the Residential (R) and Village Residential (VR) represents lands that are anticipated to develop as an R-1, R-2, or R-3 zone if they are annexed into the City. To estimate the housing capacity in R and VR land use, the proportion of R-1, R-2, and R-3 already developed within the City was calculated. The calculation showed that 88 percent of R and VR land is zoned R-1, 8 percent is zoned R-2, and 2 percent is zoned R-3. These proportions were used to estimate the housing capacity of R and VR lands outside the city limits. Table 2.0-3 of Chapter 2.0, Project Description, presents the existing and proposed densities and realistic yield with these zoning designations. The existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units.

CUMULATIVE EFFECTS OF THE PROJECT

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. Section 15130 of the CEQA Guidelines requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

To assess cumulative impacts, an EIR must analyze either a list of past, present, and probable future projects (referred to as the “list approach”) or a summary of projections contained in an adopted general plan or related planning document (referred to as the “projection method”). Because of the programmatic nature of the Modesto General Plan, this Draft EIR uses the **projection method** for the cumulative analysis and considers buildout of the proposed General Plan in addition to buildout of the other General Plans within Stanislaus County, as summarized and addressed in the 2022 Regional Transportation Plan/Sustainable Communities Strategy (2022 RTP/SCS). Development of the 2022 RTP/SCS included review of land use plans for each jurisdiction within Stanislaus County, including:

- County of Stanislaus
- City of Ceres
- City of Hughson
- City of Modesto
- City of Newman
- City of Oakdale
- City of Patterson

- City of Riverbank
- City of Turlock
- City of Waterford

The 2022 RTP/SCS projects that growth county-wide would result in a population of approximately 670,000 people, a 21% increase in population over 2020. This population growth is forecasted to be accompanied by 45,000 new housing units and 48,000 more jobs. This forecast shows an improved jobs/housing imbalance in the later years of the plan allowing more people to live and work within the county[1].

The Projection Method serves as a guide to determine if the General Plan Update is consistent with the long-term population, employment, and household projections of the region. If the proposed UAGP amendment is generally consistent with regional projections, then it would also generally be consistent with regional efforts to address environmental problems such as air quality and traffic.

Cumulative Impacts

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. An exception to this is a topic like traffic, which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

Impact 4.1: Cumulative degradation of the existing visual character of the region (Less than Significant and Less than Cumulatively Considerable)

Adoption of the Growth Strategy Diagram for the Planned Urbanizing Area, as presented in Chapter II of the proposed General Plan amendment, could lead to new development in areas that are currently vacant or used for agricultural purposes. This could lead to the introduction of light and glare in areas that are not currently illuminated. Additionally, the adoption of proposed UAGP actions and policies that could lead to an expanded street system and enhanced transit system also could increase light and glare in the planning area. The City has adopted *Guidelines for Small-Lot Single-Family Residential Developments* and *Design Guidelines for Commercial & Industrial Development* that include standards for the design of outdoor lighting fixtures. These standards limit the size of fixtures and require that fixtures focus their light to avoid spilling onto nearby properties. General Plan amendment policies VR-2 through VR-5 and the applicable design guidelines would reduce the potential for light and glare-related cumulative impacts to a less than significant level.

[1] Stanislaus Council of Governments. (2022). Final 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (p. 9).

UAGP policies would ensure that important visual resources are preserved and enhanced and that views from riverside parks in Modesto are protected from the potential effects of new development. Additionally, the adopted policies of the County General Plan ensure the protection and preservation of natural and scenic areas throughout Stanislaus County. Regarding light and glare, UAGP policy VR-3 would reduce the project's contribution to cumulative impacts.

Moreover, there are no designated scenic vistas in the UAGP planning area. As discussed previously, no adopted State scenic highway is in the City of Modesto. It should be noted that other developments in nearby jurisdictions could degrade the existing visual character of the region through new development in their respective jurisdiction. It is anticipated that all new developments in nearby jurisdictions would be designed to conform with each of the jurisdiction's applicable design standards and planning documents (such as general plans), which are intended to ensure that urban design is visually high quality and consistent with their standards. There will inevitably be changes in some areas from a more open agricultural aesthetic, to a developed urban aesthetic, which is a cumulative change of visual character. Consistency with the design standards will ensure that the cumulative change is not a significant impact.

Therefore, overall, the proposed UAGP amendment's incremental contribution to this cumulative impact would be ***less than significant*** and ***less than cumulatively considerable*****.**

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Planning Area. In effect, the density change would not cause any direct physical changes related to effects on impacts associated with Aesthetics and Visual Resources, other than the building product type will be the type that is denser and compact in design. Therefore, it would not change the previous impact determination of ***less than significant*** and ***less than cumulatively considerable*****.**

AGRICULTURAL AND FOREST RESOURCES

Impact 4.2: Cumulative impact to agricultural lands and resources (Considerable Contribution and Significant and Unavoidable)

Development in Stanislaus County, including that within both unincorporated areas and cities, and some of the development envisioned in the UAGP, would result in cumulative impacts related to the conversion of agricultural land. Modesto, as the largest city in the county, is expected to and planned to accommodate a substantial share of Stanislaus County's projected population growth. Although policies in the UAGP and the County General Plan encourage efficient land use and minimize agricultural conversion (as described under Direct Impacts, above), the loss of agricultural land from projected regional population growth is inevitable. Accordingly, growth within Modesto's planning area would contribute considerably to this loss. This impact(s) is considered significant and unavoidable.

UAGP policies AL-12 through AL-21 would reduce (but not eliminate) cumulative impacts by encouraging infill development and discouraging development in unincorporated, nonurbanized areas. Nevertheless, this is considered a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a significant and unavoidable impact. In effect, the density change would not cause any direct physical changes related to agricultural land, therefore, it would not change the previous impact determination of ***cumulatively considerable*** and ***significant and unavoidable***.

AIR QUALITY

Air quality issues are inherently cumulative and have the potential to affect the entire basin. Therefore, cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.3: Cumulative impact on the regions air quality (Considerable Contribution and Significant and Unavoidable)

Implementation of the proposed General Plan Amendment would result in short-term emissions from construction activities associated with subsequent development, including site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM_{10} and $PM_{2.5}$ emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impacts from construction are addressed below under Significance Threshold “d” (Expose Sensitive Receptors to Substantial Pollutant Concentrations).

Demolition and renovation of buildings can also generate PM_{10} and $PM_{2.5}$ emissions. Off-road construction equipment is often diesel-powered and can be a substantial source of NOX emissions, in addition to PM10 and PM2.5 emissions. Worker commute trips and architectural coatings are dominant sources of ROG emissions. The SJVAPCD GAMAQI does not identify plan-level thresholds that apply to construction. The SJVAPCD GAMAQI emphasizes implementation of effective and comprehensive control measures rather than requiring a detailed quantification of construction emissions. SJVAPCD adopted a set of PM_{10} fugitive dust rules collectively called Regulation VIII. This

regulation essentially prohibits the emissions of visible dust (limited to 20 percent opacity) and requires that disturbed areas or soils be stabilized. Compliance with Regulation VIII during the construction phases of the various projects under the General Plan Amendment would be required. Prior to construction of each project, the applicant would be required to submit a dust control plan to the District that meets the regulation requirements. These plans are reviewed by SJVAPCD, and construction cannot begin until District approval is obtained. Anyone who prepares or implements a Dust Control Plan must attend a training course conducted by the District. Construction sites are subject to SJVAPCD inspections under this regulation.

The SJVAPCD Indirect Source Review Rule (Rule 9510) applies to construction of projects that would exceed certain sizes. Rule 9510 ensures that projects contribute their share of emission reductions to achieve the basin-wide reduction targets established in the Air District's ozone and particulate matter attainment plans. Rule 9510 would require that projects reduce construction exhaust emissions by 20 percent for NOx and 45 percent for PM_{10}. SJVAPCD encourages reductions through on-site mitigation measures (note: use of the term "mitigation" under Rule 9510 does not necessarily refer to mitigation of impacts under CEQA. If a project would not exceed the CEQA significance thresholds, no mitigation under CEQA would be required). A combination of on-site and off-site (fee-based) measures can be implemented to meet the overall emission reduction requirements.

Without application of appropriate control measures to reduce construction dust and exhaust, construction period impacts at the project level would be considered a potentially significant impact. Implementation of proposed General Plan amendment Policies VII.H.2.jj through VII.H.2.aaa, as applicable, would reduce this impact to less than significant.

As discussed above, Rule 9510 would not be considered mitigation under CEQA. However, it would require that construction exhaust emissions be reduced by 20 percent for NOx and 45 percent for PM_{10}. Additionally, implementation of the proposed Project could result in cumulatively considerable long-term area and mobile source emissions, resulting from operation and use of subsequent development. This impact would be significant and unavoidable.

Implementation of the General Plan amendment could include stationary sources of pollutants that would be required to obtain permits to operate in compliance with SJVAPCD rules. These sources include, but are not limited to, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. The permit process ensures that these sources would be equipped with the required emission controls and that, individually, these sources would result in a less than significant impact.

As discussed above, the SJVAPCD GAMAQI does not have thresholds related to direct and indirect regional criteria pollutant emissions resulting from plan implementation. Under Rule 9510, projects would be required to reduce operational NOx emissions by 33 percent and operational PM10 emissions by 50 percent over ten years.

Lastly, with respect to other emissions, future development under the proposed General Plan would be required to comply with Air Quality Management Plan (AQMP), State Implementation Plan (SIP), California Air Resources Board (CARB), San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations, Title 24 energy efficiency standards, and the proposed General Plan policies and actions.

Overall, since the full nature of the impacts of proposed Project-generated TAC impacts is not fully known currently, this is considered a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. UAGP policies (AQ-1 through AQ117) would reduce impacts associated with air quality. However, the proposed density changes would not change the previous impact determination of ***cumulatively considerable*** and ***significant and unavoidable.***

BIOLOGICAL RESOURCES

Impact 4.4: Cumulative loss of biological resources, including habitats and special status species (Less than Significant and Less than Cumulatively Considerable)

The project will contribute to the cumulative impact of habitat loss within the San Joaquin Valley. Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

As noted in Impact 3.4-2 of Section 3.4: Biological Resources, the UAGP designates all riparian corridors within the planning area as open space. This designation decreases the potential impacts on valley foothill riparian, riverine habitat, and associated fresh emergent wetlands within those corridors by limiting the intensity of potential land uses. Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. However, development of the Planning Area could impede the movement of wildlife by disturbing and/or blocking local movement corridors or by disturbing nursery sites. Many of the species that would normally use annual grasslands and vernal pool complexes as foraging areas would not as easily move across the future urbanized landscapes planned for development. The General Plan includes areas

designated for Open Space uses, including farmlands, creeks, riparian areas, and grasslands, which would become the primary wildlife corridors as the landscape urbanizes. However, there is still a reasonable chance that movement corridors could be impacted throughout the buildout of subsequent individual projects.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. The City of Modesto has prepared the General Plan to include policies and actions intended to protect movement corridors from adverse effects associated with future development and improvement projects. For example, Policy SWPH-2 requires site-specific surveys for sensitive natural communities or species prior to development. Additionally, Policy SWPH-3 requires future projects to avoid and preserve areas occupied by special-status species where feasible. Where avoidance is not feasible, protect these areas with fencing, signs and or buffer zones. Further, Policy SWPH-4 requires inclusion of additional protection measures for sensitive habitats. If movement corridors are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

The environmental vision of the UAGP states that the UAGP "promotes residential development at higher densities to avoid low-density sprawl and promotes staged urban growth so that the conversion of agricultural land [and, by inference, habitat] is focused to a few villages, not spread broadly around the City's urban perimeter." Providing for higher residential density than the suburban norm and a compact pattern of growth within the UAGP area to 2040 (and beyond) would minimize the City's contribution to the cumulative loss of habitat.

The addition of structures and increased human activity in open space / natural areas that would be associated with this population increase would potentially significantly impact sensitive plant and wildlife habitat by converting plant and wildlife habitat to urban uses. However, the compact concentration of population in the Modesto area (where more than 40% of the total county population is projected to live), as envisioned in the UAGP, would help decrease development pressures in the eastern and western portions of the county, where most of the significant biological resources are located.

Development in the areas most likely to result in cumulative impacts—the riparian areas along Dry Creek, the Stanislaus River, and the Tuolumne River, and undeveloped lands within the Planned Urbanizing Area—would require further site- and project-specific studies to be undertaken, habitat to be set aside, and compensation habitat established, if necessary. Currently, the UAGP includes policies to ensure that future actions limit their contributions to habitat loss. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be considered a ***less than significant*** and ***less than cumulatively considerable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. However, regardless of these density changes, development facilitated by the UAGP would still be required to comply with the biological resources related policies as established by the UGAP, which determined this impact to have a less than significant impact. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would remain ***less than significant*** and ***less than cumulatively considerable***.

CULTURAL AND TRIBAL RESOURCES

Impact 4.5: Cumulative impacts on known and undiscovered cultural resources (Considerable Contribution and Significant and Unavoidable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. The proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to resources in the region. As discussed in Section 3.5 (Cultural and Tribal Cultural Resources), each project would require specific surveys for potential resources and the evaluation of any resources discovered during construction activities. Other policies and actions designed to reduce impacts on cultural and tribal cultural resources within the Planning Area and the region are also provided in Section 3.5 (Cultural and Tribal Cultural Resources). Adherence to these policies, actions, and regulations will avoid and/or minimize a cumulative loss of these important resources if they are found during project-specific surveys or construction. However, demolition of significant buildings cannot be mitigated to a less than significant level, and, even with implementation of mitigation measures, the impact would be considered a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. In effect, the density change would not cause any direct physical changes related to historic or archaeological resources, therefore, it would not change the previous impact determination a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

GEOLOGY AND SOILS

Impact 4.6: Cumulative impacts related to geology and soils (Less than Significant and Less than Cumulatively Considerable)

Several Stanislaus County municipalities have grown substantially in recent decades, representing an increase in the number of people living and working within the area affected by the county's ambient seismic hazards. Stringent building standards and the regulation of construction offer a substantive means of mitigating seismic hazards, but such risks cannot be avoided entirely, and in regions of rapid urban expansion, a significant cumulative impact related to increased exposure to seismic hazards may exist, nonetheless. This pattern is expected to continue. However, under existing City codes, all new structures would be required to meet or exceed UBC standards for Seismic Zone 3. As appropriate, projects also would be required to comply with the recommendations of a site-specific geotechnical report that identifies seismic constraints and develops engineering parameters at the project level. Finally, the City has committed to comply with any future enforcement responsibilities that become effective under the Alquist-Priolo Act and the Seismic Hazards Mapping Act of 1990. With these conditions in place, the increased seismic risk exposure associated with the proposed project has been identified as less than significant in the broad context and would not be expected to increase to a cumulatively considerable level. As a result, the proposed General Plan's incremental contribution to cumulative geologic and soil impacts would be ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site, and it would not cause any direct physical changes related to geology and soils, therefore, it would not change the previous impact determination of ***less than significant*** and ***less than cumulatively considerable***.

GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy (Considerable Contribution and Significant and Unavoidable)

Implementation of the Modesto UAGP amendment General Plan would not directly result in the creation of GHG emissions. However, subsequent development allowed under the UAGP amendment would result in new projects that would increase GHG emissions in the Modesto Planning Area.

There are a variety of ways in which a general plan could contribute to climate change and result in the generation of GHGs. Sprawling land use patterns that place residences far from employment and retail centers can result in increased vehicle miles traveled (VMT), which increase GHG generation. The conversion of forest lands and open space areas into urbanized uses removes vegetation and trees that have positive carbon sequestration value. Imbalances between local jobs and housing can result in increased commute times and increased VMT associated with longer travel distances between home and work.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. GHG emissions are cumulative by nature, given that they spread throughout the atmosphere on a global scale. In determining the significance of a project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the *combined* effects from *both* the proposed project *and* other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the project's *incremental* effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders about climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

Overall, General Plan policies and implementing actions would minimize potential impacts associated with GHG emissions in the Planning Area through the promotion of VMT reduction strategies, multimodal support and transportation improvements, and the support of green building practices, among other policies and actions, and would support requirements under AB 32, SB 375, and SB 32.

Subsequent development projects would be required to comply with the General Plan and adopted federal, state, and local regulations for the reduction of GHG emissions. The City has prepared the General Plan to include numerous goals and policies intended to reduce GHG emissions associated with future development and improvement projects. However, even with implementation of the goals, policies, and actions contained in the proposed General Plan, there is no guarantee that the General Plan alone would be sufficient to limit GHGs to the extent required by AB 32, SB 375, and SB 32 and other federal and state regulations, and a quantitative GHG at the program levels in not feasible. Therefore, General Plan implementation is considered to have the potential to generate GHG emissions that could have a significant impact on the environment and/or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Separately, with implementation of the proposed General Plan, the Planning Area would be linked closely with existing and proposed road, bicycle, and pedestrian networks that would well serve the residents of the Planning Area and neighboring communities. For the reasons stated above, the buildout of the General Plan would not be expected to cause inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Overall, however, the proposed UAGP amendment's incremental contribution to cumulative greenhouse gas, climate change, and energy impacts would be considered a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. UAGP policies (AQ-1 through AQ-117) would reduce impacts associated with GHGs and Energy. However, the proposed density changes would not change the previous impact determination of a ***cumulatively considerable*** and ***significant and unavoidable*** impact***.***

HAZARDS AND HAZARDOUS MATERIALS

Impact 4.8: Cumulative impacts related to hazardous materials and human health risks (Less than Significant and Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed UAGP amendment may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels or diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the General Plan, some future land uses will inevitably transport or use hazardous materials within ¼ mile of a school, or other sensitive receptors such as hospitals and residences.

New development would inevitably increase the use of some hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. Any use of hazardous materials must be managed in accordance with federal, State, and local (including Stanislaus County) regulations to minimize any risk.

Hazardous materials incidents, if any, are typically site-specific and involve accidental spills or inadvertent releases. Associated health and safety risks generally are limited to those individuals using the materials or to people in the immediate vicinity of the materials. Hazard-related impacts tend to be site-specific and project-specific. While some cumulative impacts, such as those associated with increases in the use of hazardous materials in the City associated with additional development, will occur in the region as individual projects are constructed, the UAGP policies and actions, as well as State and Federal regulations, will reduce the project's contribution to risks to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for the use of hazardous materials in the region, as discussed in Section 3.8 (Hazards and Hazardous Materials), the overall cumulative impact for most hazard impacts would not be significant. Therefore, this impact is considered ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site but would concentrate more people in the planning area. The density change may cause a slight increase in the use of household hazardous materials in the planning area, but residential uses are not generators or transporters of other hazardous materials. The density changes would not have any direct physical changes related to hazardous materials, however. Projects will be required to comply with all federal, state, and local laws and regulations related to the transport and use of hazardous materials. Compliance with these would ensure that impacts are ***less than significant*** and ***less than cumulatively considerable***.

HYDROLOGY AND WATER QUALITY

Impact 4.9: Cumulative impacts related to hydrology and water quality (Less than Significant and Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the residential densities of the proposed UAGP amendment has the potential to result in construction-related water quality impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns. Further, impacts resulting from buildout of the General Plan and potential development of the Planning Area would include substantial grading, site preparation, and an increase in urbanized development. Increased development in the County, including the Planning Area, would contribute to cumulative water quality impacts.

While some cumulative impacts occur in the region as individual projects are constructed, the UAGP policies and actions, as well as State and Federal regulations, will substantially reduce the project's contribution to impacts. Considering the protection granted by local, State, and Federal agencies and their permit and monitoring requirements, as discussed in Section 3.9 (Hydrology and Water Quality), and with implementation of the policies and actions included within the UAGP, the overall cumulative impact would not be significant. As a result, the General Plan's incremental contribution to cumulative hydrology impacts would be ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of the Project site. However, the increased intensity of development could increase the potential for impacts associated with hydrology and water quality. Nevertheless, with implementation of the applicable General Plan goals and policies, and the City's

Municipal Code, this impact would not change from the previous impact determination of ***less than significant*** and ***less than cumulatively considerable***.

LAND USE, POPULATION, AND HOUSING

Impact 4.10: Cumulative impacts related to local land use, population, and housing (Less than Significant and Less than Cumulatively Considerable)

Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site and project specific. It may be determined in the project-specific design phase of a development project that an individual project may require removal of homes and result in the displacement of people and housing; however, these effects are not cumulatively considerable because there is adequate replacement housing available under the proposed General Plan. Additionally, any removal of homes would require adequate compensation to the homeowner in accordance with Federal and State laws.

The residential densities allowed under the proposed UAGP amendment provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas, as well as limited new growth within the Planning Area, but would not create physical division within existing communities. New development and redevelopment projects would be designed to complement the character of existing neighborhoods and provide connectivity between existing development and new development within the cumulative analysis area. The proposed UAGP amendment does not include any new roadways, infrastructure, or other features that would divide existing communities. Moreover, with implementation of UAGP policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the residential densities allowed under the proposed UAGP amendment, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Lastly, UAGP implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere Therefore, the proposed UAGP Amendment's incremental contribution to cumulative land use and population impacts would be ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. In effect, the density change would not cause any direct physical changes related to the potential for impacts associated with land use, population, and housing; therefore, it would not change the previous impact determination of ***less than significant*** and ***less than cumulatively considerable***.

MINERAL RESOURCES

Impact 4.11: Cumulative impacts related to mineral resources (Less than Significant and Less than Cumulatively Considerable)

Within the Planning Area, there are no areas classified as Mineral Resource Zones (MRZ-2a or MRZ-2b) under the Surface Mining and Reclamation Act—that is, areas where significant mineral deposits have been determined to exist—occur within the planning area. (These classifications are described further in the *State Policies* section below.) Modesto is entirely within an area zoned MRZ- 3a for sand and gravel. This designation indicates areas containing known mineral occurrences of undetermined significance. As recently as 1998, there were five active sand and gravel operations and one specialty sand mining operation in Modesto. However, no mining activity occurs in Modesto, and data from the U.S. Geological Survey regarding mineral production in California indicate that no new mines or expansions of existing mines were approved in Modesto between 1999 and 2006.

The UAGP provides the following policies related to geology, geologic hazards, and mineral resources: Baseline Developed Area and Planned Urbanizing Area: GSM-1 through GSM-10. In addition, the City will comply with requirements of its Grading and Erosion Control Ordinance and the adopted "Erosion and Sediment Control Standards for Construction Activities." With implementation of UAGP policies, the proposed UAGP amendment's incremental contribution to cumulative mineral resource impacts would be ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density change would not cause any direct physical changes related to mineral resources; therefore, it would not change the previous impact determination of ***less than significant*** and ***less than cumulatively considerable***.

NOISE

Impact 4.12: Cumulative impacts related to noise (Considerable Contribution and Significant and Unavoidable)

Traffic from development in the City of Modesto would contribute, along with traffic from development in surrounding region, toward a cumulative increase in roadside noise levels on major roads and highways throughout the County. Traffic analyses and corresponding traffic noise analyses account for cumulative traffic volumes.

Noise projections based on the traffic levels anticipated in the UAGP indicate that noise levels would exceed the UAGP and noise ordinance standards. Noise may also exceed noise ordinance standards for railroad noise, stationary noise sources, construction vibration, and groundborne vibration. This is a significant cumulative effect. The development allowable under the proposed General Plan amendment would make a considerable contribution to that effect. The impact(s) is

significant and unavoidable. Therefore, this is considered a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase noise impacts beyond what was originally anticipated in the UAGP planning area. However, this impact is considered to remain a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

PUBLIC SERVICES AND RECREATION

Impact 4.13: Cumulative impacts to public services and recreation (Less than Significant and Less than Cumulatively Considerable)

Development accommodated under the proposed UAGP amendment would result in additional residents. Development and growth facilitated by the UAGP would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The UAGP includes policies and actions to ensure that public services are provided at acceptable levels and to ensure that development and growth does not outpace the provision of public services.

Cumulative growth that would occur within Stainislaus County and other cities within Stanislaus County over the life of the UAGP will result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for public services and recreation increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

New public services and recreation facilities will be needed to serve growth contemplated in the UAGP. The environmental effect of providing public services and recreation is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the UAGP does not propose or authorize development, nor does it designate specific sites for new or expanded public facilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would be like those associated with new development, redevelopment, and infrastructure projects under the UAGP. These impacts are described in the relevant chapters (Chapters 3.1 through 3.14, and 4.0) of this Draft EIR. Any future development under the UAGP would be required to comply with regulations, policies, and standards included in the UAGP, and would be subject to CEQA review as appropriate. The UAGP includes a range of policies and actions to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City

and appropriate service agency, that new development funds its fair share of services, and that the effects of new development of parks, schools, and other public service facilities are appropriately considered. Payment of applicable impact fees, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by future projects, would ensure that the City maintains acceptable service ratios and that the expansion of public service facilities are adequately funded. The proposed UAGP amendment's incremental contribution to cumulative public services and recreation impacts would be ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the size of Planning Area, but development and growth facilitated by the density changes would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., office, maintenance, and administrative buildings and facilities, schools, parks, fire facilities, libraries, etc.) will be needed to provide adequate staffing, equipment, and appropriate facilities to serve growth in the city. Existing facilities may be expanded at their current location and there would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide public services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Modesto. Separately, the policies of the General Plan (POS-2 through POS-42, as listed within Section 3.12: Public Services and Recreation), would minimize direct impacts by requiring the provision of adequate parks and open space for new development. Therefore, impacts related to the provisions and need for public facilities are ***less than significant*** and ***less than cumulatively considerable***.

TRANSPORTATION AND CIRCULATION

Impact 4.14: Cumulative impacts on the transportation network (Considerable Contribution and Significant and Unavoidable)

As described in Section 3.13: Transportation and Circulation, the proposed development was evaluated against the screening criteria in OPR's Technical Advisory (SB 743 Memorandum). The following criteria is applicable to residential developments.

1. Small projects – projects consistent with a Sustainable Communities Strategy and local general plan that generate or attract fewer than 110 trips per day.

2. Projects near major transit stops – certain projects (residential, retail, office, or a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
3. Affordable residential development – a project consisting of a high percentage of affordable housing may be a basis to find a less-than-significant impact on VMT.
4. Projects in low VMT areas – residential and office projects that incorporate similar features (i.e., density, mix of uses, transit accessibility) as existing development in areas with low VMT will tend to exhibit similarly low VMT.

The SB 743 Memorandum identifies the recommended numeric VMT thresholds for residential projects. Based on the VMT thresholds, a residential project would result in a less-than-significant transportation impact if:

5. Under existing (baseline) conditions, the residential development would generate home-based VMT per dwelling unit equal or below 85 percent of the existing (baseline) City of Manteca average for the same housing category (single family, multi-family, or age-restricted); and
6. Under cumulative conditions, the residential development would generate home-based VMT per dwelling equal or below 85 percent of the cumulative City of Manteca average for the same housing category (single family, multi-family, or age-restricted).

Alternatively, the project would result in a less-than-significant transportation impact if:

7. The residential development would cause the total VMT in the model area to decrease under baseline AND cumulative conditions.

General Plan implementation does not constitute a small project, is not located within ½ mile of an existing major transit stop, and is not a redevelopment project. Therefore, the development is not eligible to be screened out based on these criteria. Furthermore, the SB 743 Memorandum does not identify any low VMT areas in Modesto for project screening purposes. Moreover, General Plan implementation would result in VMT that would be greater than 85% of baseline conditions; additionally, General Plan implementation would not cause the total VMT in the model area to decrease. Therefore, this impact is considered ***significant and unavoidable*** and ***cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

Table 3.13-1 in Section 3.13: Transportation and Circulation summarizes the VMT per service population and per capita results calculated from the StanCOG model for the 2019 base year, 2046 No Project, 2046 With Project, and 2046 With Project plus Employment Growth. The table shows the VMT per capita and the VMT per service population with Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within the City and the Planning Area.

In the With Project scenario the VMT per capita reduces by 10 percent compared to the No Project (existing General Plan) while the VMT per service population decreases by 5 percent, meaning that the With Project provides an improved condition relative to the No Project. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project. This indicates that the General Plan Amendment associated with the updated Housing element is an improvement over the current General Plan in terms of VMT efficiency.

Table 3.13-2 in Section 3.13: Transportation and Circulation shows the daily VMT summary for each scenario with the corresponding socioeconomic data. While adding new residential units and employment increases total VMT the relative metric of VMT per Service population decreases with population and employment growth when compared with 2019 Baseline and 2045 No project VMT.

As shown in Table 3.13-2 in Section 3.13: Transportation and Circulation, the proposed UAGP amendment would not result in VMT increases that exceed the threshold for employment-related land uses. The Housing Element will add 21,837 housing units within the Planning Area (City and the Sphere of Influence). The addition of housing units leads to population growth of 63,692 or a 20 percent increase. The VMT results also indicate the VMT per capita and the VMT per service population With Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within both the City and the full Planning Area. This represents an improvement in VMT efficiency compared to the current General Plan, which suggests that implementation of the With Project would result in a less than significant impact.

Nevertheless, the data shows that General Plan implementation with the proposed amendments to the General Plan and zoning ordinance would result in VMT that would be greater than 85% of baseline conditions, which would exceed the OPR's SB 743 Memorandum criteria. Moreover, it anticipated that there will be some individual projects developed, that may individually have VMT increases that are greater than 85% of baseline conditions. Furthermore, General Plan implementation with the proposed amendments to the General Plan and zoning ordinance would not screen out under the OPR's screening criteria, nor is total VMT in the model area expected to decrease. For these reasons, the impact is considered to be a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

UTILITIES

Impact 4.15: Cumulative impacts related to utilities (Less than Significant and Less than Cumulatively Considerable)

Cumulative growth that would occur within the Planning Area over the life of the proposed UAGP amendment will result in increased demand for water service, sewer service, and solid waste disposal services.

In general, expanded, and new utility infrastructure will be needed to serve growth contemplated in the proposed UAGP amendment. The environmental effect of providing the utility services is

associated with the physical impact of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the UAGP does not propose or authorize development, nor does it designate specific sites for new or expanded facilities and infrastructure associated with utilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be like those associated with new development, redevelopment, and infrastructure projects under the UAGP. These impacts are described in the relevant chapters (Chapters 3.1 through 3.14, and 4.0) of this Draft EIR. Any future development under the UAGP would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

Water: Impacts to water supplies could occur from increased groundwater extraction in Stanislaus County due to projected population growth. Development and groundwater extraction may continue at a level that results in overdraft. This would have a significant cumulative impact.

Pumping by other entities is outside of the City's control. However, the UAGP was developed in consideration of the operating yield of the Modesto and Turlock groundwater sub-basins. The operating yield was calculated to better manage the groundwater basin in consideration of estimates of annual recharge and pumping activities, and to prevent lowering of the groundwater table. The City is a participant in the GSAs that have been formed for the Modesto and Turlock subbasins. The GSAs are being developed per the requirements of SGMA. The City will implement recommendations of the GSP to ensure that its contribution to significant cumulative groundwater impacts would not be considerable.

Cumulative impacts related to construction of new water treatment facilities or expansion of existing facilities at the MRWTP could occur if MID's water demands are higher than what was projected in the UWMP and trigger the need for additional water treatment facilities. This would have a significant cumulative impact.

However, the expanded MRWTP, which has capacity to treat 60 mgd, would be able to accommodate the City's projected water supply demands through 2040. The City also has a Water Shortage Contingency Plan that identifies necessary steps and conservation measures to take in the event of a water shortage. As such, the UAGP's contribution to cumulative impacts regarding construction of new water treatment facilities would not be considerable.

Cumulative impacts to water supplies could occur from potential exceedance of water supply entitlements or expansion of entitlements in Stanislaus County, given the extent of projected population growth. Each water provider would be required to obtain sufficient water supply entitlements to accommodate the demand within its service area, a process that would involve negotiation with the SWRCB and other water right holders. This would have a significant cumulative impact.

As described in the Urban Water Management Plan (UWMP), the City has sufficient water supply to meet demand in normal, single dry, and multiple dry water years through 2045 with water

conservation. In addition, the City has a long-term water agreement with MID, which has sufficient entitlements to serve the estimated growth considered in the UAGP. As a result, the UAGP would not make a considerable contribution to this cumulative impact, and this impact is less than significant.

Construction of various capital improvement projects necessary to address projected growth in the City's UAGP planning area and the cumulative study are currently being addressed in the Water Master Plan EIR. Most water distribution improvements are needed to accommodate projected water supply demands of the City of Modesto. Furthermore, policies described throughout the UAGP would minimize construction and operational impacts associated with WWMP improvements. As such, impacts of these facilities are generally addressed in this EIR and the facilities would be subject to the applicable policies, any mitigation measures and impact conclusions in the respective resource chapter. To the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements. By complying with the policies contained in the UAGP and this EIR, the project's contribution to significant cumulative impacts related to expansion of existing facilities would not be considerable.

Additionally, future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system to connect new project sites to the City's existing water infrastructure network. The specific impacts of providing new and expanded waster distribution infrastructure cannot be determined at this time, as the UAGP does not propose any specific development projects or include details on any future development projects. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would be like those associated with new development, redevelopment, and infrastructure projects under the UAGP.

Given that projected water demands associated with UAGP buildout would not exceed the projected water supplies, and that the proposed General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are ***less than significant*** and ***less than cumulatively considerable*****.**

Wastewater: As described in Section 3.14: Utilities and Service Systems, the City would comply with its current NPDES permit (Order No. R5- 2017-0064, NPDES No. CA0079103) including the Central Valley RWQCB's requirement to cease all discharge of wastewater that is treated at less than tertiary levels.

The Wastewater Collection System Master Plan and Wastewater Treatment Master Plan take into consideration projected wastewater flows generated by both the City of Modesto as well as those

generated in Ceres, Empire, and other unincorporated areas within the City's sewer service area. By complying with necessary wastewater discharge and NPDES permits from the Central Valley RWQCB as well as UAGP Policy VI.D.2, the City would not exceed wastewater treatment requirements and no contribution to a significant cumulative impact would occur.

Construction of the various capital improvement projects necessary to address projected growth in the City's UAGP planning area and the cumulative study area are currently being addressed in the WWMP EIR. Most wastewater treatment improvements are needed to accommodate projected sanitary sewer demands of the City of Modesto.

In addition, policies described throughout the UAGP would minimize construction and operational impacts associated with WWMP improvements. As such, impacts of these facilities are generally addressed in this EIR and the facilities would be subject to the applicable policies, any mitigation measures and impact conclusions in the respective resource chapter. To the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements. By complying with the policies contained in the UAGP and this EIR, the project's contribution to significant cumulative impacts related to expansion of existing facilities would not be considerable.

Additionally, the City must also periodically review and update its Master Plans, and as growth continues to occur within the Planning Area, the City will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that projected wastewater generation volumes associated with UAGP buildout would not exceed the projected wastewater generation volumes of the Wastewater Collection System Master Plan and Wastewater Treatment Master Plan and that the UAGP includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are less than significant**.** The proposed General Plan's incremental contribution to cumulative wastewater impacts would be ***less than significant*** and ***less than cumulatively considerable***.

Stormwater: Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way.

Stormwater drainage and conveyance facilities would be evaluated at the project level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts

of constructing and operating the facilities would be like those associated with new development, redevelopment, and infrastructure projects under the UAGP.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The City's implementation of a Peak Discharge Impact Study (PDIS) by the MS4 Permit would ensure that the City's urban runoff flows were managed to prevent or minimize any potential to affect erosion of natural stream channels and banks on Dry Creek and the Tuolumne River. In addition, as described below, the County and City's plans and policies would ensure that planned urban development in the Modesto planning area and the associated increase in runoff, would not have the potential to exceed the capacity of storm drainage systems or provide substantial additional sources of polluted runoff.

The UAGP contains policies to establish requirements for new storm drainage infrastructure, including gravity-fed systems and dual-use flood control/recreation facilities (SD-4 and SD-5); minimize impervious surfaces and maximize stormwater infiltration (SD-6, SD-14); implement Low Impact Development measures (SD-7, SD-15); meet applicable urban runoff requirements (SD-8); and implement both construction- related and permanent pollution control measures (SD-10, SD-11, SD-12, SD-13, SD-14). Implementation of these policies would ensure that there is adequate flood control infrastructure to serve future development under the UAGP amendment and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts. The proposed UAGP amendment's incremental contribution to cumulative wastewater impacts would be ***less than significant*** and ***less than cumulatively considerable***.

Solid Waste: The proposed Project does not change the existing Modesto's UAGP Land Use Map, which was adopted in 2019 based on the City's Growth Strategy. The proposed Project does, however, change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). Development accommodated under the UAGP would result in additional residents in the City. As described in Chapter 2.0, the UAGP is expected to accommodate up to 11,085 units within the city limits, and the proposed density increases would increase the capacity to 19,615 units within the city limits. This represents an increase of 8,530 units within the city limits at full buildout. Outside the city limits, but within the planning area, the existing realistic yield is 28,321 units, and the proposed density increases would increase the capacity to 41,628 units. This represents an increase of 13,307 units in the area outside the city limits but within the planning area. The total increase in housing capacity is estimated to be 21,837 units.

Therefore, the proposed Project would result in a generation of a total of approximately 10,768 tons of solid waste per year, utilizing CalRecycle solid waste generation rates for single family and multi-family units. Per 2004 CIWMB-accepted diversion rate, the City is diverting approximately 54 percent of its solid waste stream through source reduction, recycling, composting, and transformation. The City can expect to send approximately 2.5 million tons of waste to the SRRF to

Covanta Stanislaus, Inc., and deposit approximately 2.5 million tons of waste into landfills. Because growth and development consistent with the UAGP a would not exceed the combined available capacities of these landfills through 2040, any related impact(s) would be less than significant. Provision of solid waste disposal services that would be associated with growth and development consistent with the proposed General Plan amendment would not violate any existing federal, state, or local statue or regulation related to solid waste. The proposed Project's compliance with all applicable federal, state, and local statues and regulations would avoid any related impacts.

Flink Road Landfill has a remaining capacity of 19,000,000 cubic yards and has a current maximum permitted throughput of 2,400 tons per day. This landfill has a cease operation date in the year 2050. Forward Sanitary Landfill has a remaining capacity of 22,100,000 cubic yards and has a current maximum permitted throughput of 8,668 tons per day. This landfill has a cease operation date in the year 2036. The additional solid waste generation associated with the UAGP, to the Forward and Flink Road Landfills would not exceed either remaining capacity. Although growth in solid waste generation would also occur from other jurisdictions that these landfills serve, the remaining capacity of these landfills is anticipated to be sufficient to serve both the City of Modesto, as well as other jurisdictions, during the UAGP's buildout timeframe.

While there are no plans for landfill construction or expansion associated with the UAGP and/or cumulative growth during the UAGP's buildout timeframe, development of new solid waste disposal facilities could result in environmental effects in areas such as traffic, hydrology, biology, air quality, greenhouse gases, and noise. Any future construction projects would be required to conduct environmental review pursuant to CEQA prior to approval. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the UAGP, Municipal Code, and other applicable regulations associated with solid waste. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

Therefore, the proposed UAGP amendment's incremental contribution to cumulative solid waste impacts would be ***less than significant*** and ***less than cumulatively considerable***.

PROPOSED AMENDMENTS TO GENERAL PLAN AND ZONING ORDINANCE

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land area that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to have a less than significant impact. Although water, wastewater, stormwater, and solid waste may increase with these proposed amendments to the General Plan and Zoning Ordinance, as stated within this impact statement, to the extent that a particular future improvement presents potential additional impacts than analyzed in this EIR, then project-specific environmental documentation would be prepared in compliance with any CEQA requirements. Therefore, it would not change the previous impact determination of ***less than significant*** and ***less than cumulatively considerable***.

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand *(Napa Citizens for Honest Government v. Napa County Board of Supervisors)*. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The UAGP is a long-term plan intended to accommodate projected population, housing, and employment growth, including the appropriate balance among these factors with the necessary public services and infrastructure. The proposed UAGP would serve as a comprehensive, long-term plan for the physical development of Modesto. Projected growth is described in Section 3.10 (Land

Use, Population, and Housing), and the environmental consequences related to the potential growth are fully assessed in each topical section. The proposed UAGP amendment is intended to provide for and address future growth in the City.

Because the UAGP provides a framework for development through its Land Use Map, land use designations, goals, policies, and actions, it would directly induce population and employment growth in the Modesto Planning Area by designating land for development that is more intense, in some instances, than current designations allow. The analysis of the indirect growth-inducing impacts for the proposed UAGP amendment focuses on the following factors: inducement of unanticipated population growth; encouragement of economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and resulting service, facility, or infrastructure demands more than existing and planned growth.

The UAGP also would provide for infill development in the Baseline Developed Area and Downtown. In general, infill development would be considered less growth-inducing than the extension of urban infrastructure to previously unserved areas. The UAGP would provide for infill of currently vacant areas of the Baseline Developed Area, as well as intensification of development within the Downtown Area. Infill may marginally reduce the growth-inducing impact of the UAGP, but the fact remains that most new development within the City is projected to occur in the Planned Urbanizing Area. This new development would result in an increased population, employees, and housing units.

Additionally, the UAGP establishes City policies encouraging the eventual expansion of wastewater treatment plants and extension of sewer mains to serve the Planned Urbanizing Area. This expansion would enable new greenfield development at urban densities, where sanitary sewer service would be provided to accommodate this new development.

Furthermore, the UAGP policies provide for the maintenance of police and fire service at current levels as the City expands. This maintained level would enable the development of the Planned Urbanizing Area at urban densities.

The UAGP policies also provide for the eventual extension of water service to the Planned Urbanizing Area. This extension would enable the development of the Planned Urbanizing Area at urban densities, where water resources would be provided to serve this new development.

The UAGP further identifies future expressways, arterials, and collector roads that would serve the Planned Urbanizing Area. This circulation system would form the framework within which future local streets will be built. The road system would provide vehicle access necessary to develop the area at urban densities. These transportation system improvements could be growth-inducing, as new residents could commute easily to jobs outside the region.

The proposed UAGP amendment would also induce indirect growth through a multiplier effect. A multiplier effect describes the web of impacts resulting from the economic relationships between the City and the surrounding region. Increased housing and job opportunities in Modesto may have a multiplier effect on other communities in the region, whereby the City provides housing

that may support employment centers outside Modesto and provides jobs for those who live outside Modesto. This multiplier effect can manifest itself in growth as well as in associated traffic. The extent to which the multiplier effect induces housing and job growth beyond Modesto's planning area, where that growth may be located, and the intensity of that growth, cannot be quantified at this time.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Modesto during the planning period of the proposed UAGP amendment, growth will continue to occur based primarily on the demand of the housing market. As future development occurs under the proposed UAGP amendment, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth under the proposed UAGP amendment would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed UAGP amendment is intended to accommodate the City's fair share of statewide housing needs, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

The proposed UAGP amendment includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality. Additionally, this Draft EIR identifies UAGP policies and actions, where appropriate, that would serve to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Chapters 3.1 through 4.0 provide a discussion of environmental effects associated with development allowed under the proposed UAGP amendment.

This approach ensures that development within the Planned Urbanizing Area would occur as demand arises and services are available, and that future roads and utility extensions would be sized appropriately to serve planned development. This would not eliminate the growth-inducing impacts of the proposed UAGP amendment but would moderate the rate at which those impacts occur.

With implementation of UAGP policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed UAGP amendment, the infrastructure anticipated to accommodate proposed residential densities, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the proposed UAGP amendment would result a ***less than significant*** impact.

4.3 SIGNIFICANT IRREVERSIBLE AND ADVERSE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to ensure that such current consumption is justified.

Consumption of Nonrenewable Resources

Consumption of nonrenewable resources refers to the loss of physical features within the natural environment, including the conversion of agricultural lands, loss of access to mining reserves, and nonrenewable energy use. The Modesto Planning Area has nonrenewable resources, including biological resources, water resources, and agricultural resources.

The proposed General Plan directs most new development to infill areas, and areas surrounding existing neighborhoods and urbanized areas. As a result, the proposed UAGP amendment will minimize the potential for impacts to the nonrenewable resources in the Planning Area, including biological resources, water resources, and agricultural resources, to the greatest extent feasible. More detailed and focused discussions of potential impacts to these nonrenewable resources are contained throughout this Draft EIR.

Nonrenewable agricultural resources such as agricultural land, farmland, and agricultural soils, would be converted during the construction and operation of development projects contemplated under the UAGP buildout. The proposed UAGP amendment includes a variety of policies that seek to conserve and protect agricultural resources. These include policies that encourage the development of vacant lands within City boundaries prior to conversion of agricultural lands and ensure that urban development near existing agricultural lands will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.

Irretrievable Commitments/Irreversible Physical Changes

Implementation of the proposed General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the UAGP would result in irretrievable commitments by introducing development onto sites that are presently undeveloped.

The conversion of agricultural lands to urban uses would result in an irretrievable loss of agricultural land, wildlife habitat, and open space.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for development and infrastructure installation associated with uses envisioned by the proposed UAGP amendment. Buildout of the proposed UAGP amendment would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the uses accommodated by the proposed UAGP amendment. The introduction of new residential densities to the Planning Area will result in an increase energy demand associated with building operations, vehicle travel, equipment operation, and other activities. Fossil fuels are the principal source of energy and the proposed UAGP amendment will increase consumption of available supplies, including gasoline and diesel fuel, and natural gas. These energy resource demands relate to initial construction, operation, maintenance and the transport of people and goods to and from the Planning Area that would occur with implementation of the proposed UAGP amendment.

Additionally, development will physically change the environment in terms of aesthetics, air emission, noise, traffic, open space, and natural resources. These physical changes are irreversible after development occurs. Therefore, the proposed UAGP amendment would result in changes in land use within the Planning Area that would commit future generations to these uses.

Irreversible Damage

The UAGP does not involve uses in which irreversible damage could result from any potential environmental accidents associated with future buildout of the Planning Area. Future development, infrastructure, and other projects allowed under the UAGP may involve the transportation, use, and/or disposal of hazardous materials. However, potential environmental accidents would not result in irreversible damage because the future uses in the Planning Area would be subject to applicable requirements of Federal, State, and local regulations and policies. Additionally, hazardous materials are typically used in industrial and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with

industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses.

The UAGP does not propose any uses that would cause irreversible damage.

Phased Consumption of Resources

Buildout of the UAGP would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel), and from off-road construction activities (e.g., diesel fuel) associated with buildout of the UAGP. Each of these activities would require the use of energy resources. Buildout would also require commitment to other resources, as discussed above. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures. Additionally, developers would have to comply with General Plan policies and implementing actions that reduce energy usage, promote renewable and/or alternative energy sources, and encourage pedestrian/bicycle modes of transportation.

Buildout of the General Plan would follow all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio. PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific sustainability features of individual development projects could further energy consumption of those individual projects.

PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the Planning Area. The City of Modesto would comply with all existing energy standards in implementing the UAGP amendment project and would not result in significant adverse impacts on energy resources.

MANDATORY FINDINGS OF SIGNIFICANCE

CEQA Guidelines Section 15065 states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited but cumulatively considerable. As defined in CEQA Guidelines Section 15065(a)(3), cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future

projects." Cumulative impacts are addressed previously in Section 4.1 for each of the environmental topics.

CEQA Guidelines Section 15065(a)(1) states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. These impacts are discussed below.

Additionally, as required by CEQA Guidelines Section 15065(a)(4), a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. These impacts are discussed below.

Substantial Adverse Effects on Fish, Wildlife, and Plant Species

Section 3.4 (Biological Resources) of this Draft EIR fully addresses any impact that might relate to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species because of project implementation. As described throughout the analysis in this Draft EIR, the proposed UAGP amendment would not result in any significant impacts that would substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal to the environment. As described in greater detail in Section 3.4 (Biological Resources) any potentially significant impacts related to plant and animal species would be reduced to a less than significant level through implementation of goals, policies and implementation measures provided in the City's UAGP as well as through adherence to state and federal regulations. Therefore, this is considered a ***less than significant*** impact.

Substantial Adverse Effects on Human Beings

While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, population and housing, public services and recreation, transportation, utilities, and climate change, which are addressed in Section 3.3 (Air Quality), Section 3.6 (Geology and Soils), Section 3.8 (Hazards and Hazardous Materials), Section 3.9 (Hydrology and Water Quality), Section 3.12 (Noise), Section 3.10 (Land Use, Population and Housing), Section 3.12 (Public Service and Recreation), Section 3.13 (Transportation and Circulation), Section 3.14 (Utilities), and Section 3.7 (Greenhouse Gases, Climate Change and Energy). As described throughout the analysis of this Draft EIR, the proposed UAGP amendment reduces environmental effects including effects that directly and indirectly impact humans through implementation of goals, policies and implementation measures provided in the City's General Plan. However, several environmental

impacts would still be considered significant and unavoidable (listed below in Section 4.6). Therefore, this is considered a ***significant and unavoidable*** impact.

Impact 4.16: Irreversible and adverse effects (Significant and Unavoidable)

In summary, the UAGP includes an extensive policy framework that is designed to address land use and environmental issues to the greatest extent feasible, while allowing growth and economic prosperity for the City. However, even with the policies and actions that will serve to reduce potential significant impacts, the proposed UAGP amendment will result in significant irreversible changes and has the potential to result in adverse effects as described above. This impact is considered a ***significant and unavoidable*** impact under CEQA.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the General Plan are discussed in Sections 3.2, 3.3, 3.7 and previously in this chapter (cumulative level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- **Impact 3.2-1:** The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses;
- **Impact 3.2-2:** The proposed Project would conflict with existing zoning for agricultural use, or Williamson Act Contracts;
- **Impact 3.3-2:** General Plan implementation would expose sensitive receptors to substantial pollutant concentrations;
- **Impact 3.5-1:** The Project would cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section 15064.5;
- **Impact 3.7-1:** General Plan implementation would generate GHG emissions that could have a significant impact on the environment and/or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases;
- **Impact 3.11-1:** The Project would exposure to significant traffic noise sources;
- **Impact 3.11-2:** The Project would result in exposure to excessive railroad noise sources;
- **Impact 3.11-3:** The Project would result in the generation of excessive stationary noise sources;
- **Impact 3.11-4:** The Project would result in an increase in construction noise sources;
- **Impact 3.11-5:** The Project would result in construction vibration;
- **Impact 3.11-6:** The Project would result in exposure to groundborne vibration;
- **Impact 3.13-1:** General Plan implementation would result in VMT increases that are greater than 85 percent of Baseline conditions**;**
- **Impact 4.2:** Cumulative impact to agricultural lands and resources;

- **Impact 4.3:** Cumulative impact on the region's air quality;
- **Impact 4.5:** Cumulative impacts on known and undiscovered cultural resources;
- **Impact 4.7:** Cumulative impacts related to greenhouse gases, climate change, and energy;
- **Impact 4.12:** Cumulative impacts related to noise;
- **Impact 4.14:** Cumulative impacts on the transportation network;
- **Impact 4.16:** Irreversible and adverse effects.

5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must "set forth only those alternatives necessary to permit a reasoned choice." (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a "range of reasonable alternatives" and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency's fundamental underlying purpose in proposing a project. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, "feasible" is defined as:

> *… capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.* (CEQA Guidelines 15364)

PROJECT OBJECTIVES

The State CEQA Guidelines require that the project description include a statement of the objectives sought by the project (CEQA Guidelines Section 15124.b). In addition to disclosing the project's intent, the objectives help the lead agency select a reasonable range of project alternatives to be evaluated in the EIR. The objectives may also aid the City in preparing findings or a statement of overriding considerations, if necessary (CEQA Guidelines Section 15124.b).

The overarching goals of the General Plan remains consistent with those described in the 2019 EIR, including: revise the land use element, including the land use diagram, to provide enhanced economic development opportunities as new development occurs; revise the circulation element to provide a mode-balanced and cost-effective transportation system; update policies to reflect applicable state laws and regulations; and, update the General Plan EIR to allow subsequent projects to benefit from streamlined review based on its environmental analysis.

The proposed Project identifies the following objectives:

- Amend the land use and zoning densities, including the R-1 duplex allowance, in accordance with the adopted Modesto Housing Element;
- Comply with new State and Federal laws;
- Provide improved transportation alternatives, including transit, bicycle & pedestrian facilities;
- Facilitate an improved mix of land uses to reduce vehicle miles traveled by locating residential land uses close to employment, retail and services;
- Promote infill development;
- Provide framework for intensified development in Modesto's downtown area;
- Align Modesto's land use and transportation goals and policies;
- Establish a realistic set of assumptions for infrastructure needs and funding;
- Facilitate complete, safe, and walkable neighborhoods;
- Provide for a variety of transportation options;
- Promote equitable, affordable housing;
- Support existing neighborhoods / communities; and,
- Maintain the General Plan and Sphere-of-Influence boundaries (for purposes of defining the proposed project to be analyzed under CEQA).

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the public during the NOP public review and comment period.

As part of the environmental review process for the proposed project, the City of Modesto evaluated a range of potential alternatives to address the proposed Project's objectives while minimizing environmental impacts, as described below.

The City of Modesto considered a Reduced Density Alternative which proposed a 25% reduction in the increased residential densities within High-Density Residential (HDR) and Medium-Density Residential (MDR) districts. Under this alternative, housing densities in these zones would have been reduced to partially mitigate potential environmental impacts such as increased traffic, air quality emissions, and strain on public services.

The Reduced Density Alternative was deemed infeasible because it would significantly compromise the City's ability to meet its Regional Housing Needs Allocation (RHNA) targets, and it would be inconsistent with the adopted Housing Element, which has been certified by the State of California. The RHNA mandates the provision of sufficient housing capacity to address the community's housing needs across income levels, and reducing densities by 25% would create a shortfall in achieving these targets. Additionally, this alternative would conflict with the project's objective to promote compact urban growth and efficient land use patterns that align with the City's General Plan and sustainability goals.

In addition, the City of Modesto considered an expansion of the city boundary to incorporate additional land suitable for residential development to meet RHNA obligations. The City Boundary Expansion Alternative was determined to be inconsistent with the City's currently adopted land use policies and long-term planning framework, which prioritize infill development and the efficient use of existing urbanized areas. While this alternative may be contemplated in future General Plan updates, it is not contemplated as a feasible alternative in this EIR.

The alternatives to the Urban Area General Plan (UAGP) Update selected for analysis in the EIR were developed to minimize significant environmental impacts while fulfilling the basic objectives of the project, and address public, City staff, and elected officials' input with respect to potential land use and growth scenarios that may be appropriate for consideration as part of the UAGP Update. Significant impacts are summarized in Chapter 4.0 and described in greater detail in Sections 3.1 through 3.14.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Two alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following two alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: The No Project Alternative is the continuation of the existing adopted General Plan into the future. Thus, No Project Alternative as envisioned in the existing adopted General Plan, and as analyzed in the 2019 General Plan EIR, would be compared to the impacts that would occur with the proposed amendments to the General Plan and Zoning Ordinance (i.e. residential density changes).
- **Increased Density Concentration Alternative:** The Increased Density Concentration Alternative is like the proposed Project in terms of the proposed amendments to the General Plan and Zoning Ordinance (i.e. residential density changes), however, the focus on density increases would be limited to a few targeted areas (e.g., Downtown Area, Baseline Developed Area) while leaving the other areas (e.g., Planned Urbanizing Area) unchanged. Additionally, the number of total proposed units would be 42,039 units, a reduction from the 61,243 units associated with the proposed Project.

NO PROJECT (NO BUILD) ALTERNATIVE

The No Project (No Build) Alternative is the continuation of the existing adopted UAGP into the future. Thus, the impacts of the proposed UAGP amendment would be compared with the impacts that would occur with buildout of Modesto as envisioned in the existing adopted General Plan. The No Project (No Build) Alternative would not change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). The impacts of the existing adopted UAGP are described in the 2019 Program EIR prepared for the existing UAGP.

INCREASED DENSITY CONCENTRATION ALTERNATIVE

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but residential density would be concentrated in a few targeted areas, such as the Downtown Area and Baseline Developed Area, while leaving other areas, such as the Planned Urbanizing Area, with the existing densities. The Increased Density Concentration Alternative would maintain the same total number of existing residential units in the Baseline Developed Area and Planned Urbanizing Area (39,406) but would only incorporate proposed density changes in the Baseline Developed Area and Downtown Area. This would result in a reduction of total proposed units to 42,039 units, a reduction from the 61,243 units associated with the proposed Project.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Aesthetics and Visual Resources

The Baseline Developed Area and Downtown Area contain lands that are mostly developed with urban uses and are not expected to change substantially. With the proposed Project, increased densities would be allowed in the Baseline Developed Area and Downtown Area, but there are fewer areas where new development would be expected to occur in these areas. In those areas where new development occurs in the Baseline Developed Area and Downtown Area, it would be anticipated to develop at the higher allowed densities. However, most of the new development, including the allowed increased density, would occur within the Planned Urbanizing Area. This is where the aesthetic/visual change would be more noticeable as new development occurs. The higher densities would result in more light sources, more people concentrated in the area, and a denser housing product. The City of Modesto uses Design Guidelines and other existing standards (i.e. lighting standards) to ensure that new development is attractive and functional, and that lighting is not intrusive on neighbors or the night sky. Compliance with the Design Guidelines and existing standards is anticipated to reduce aesthetic/visual impacts to a less than significant level even with higher densities.

The No Project (No Build) Alternative is a continuation of the existing adopted UAGP, and would not change the allowed density within the MU-P, MU-H, P-D, R-1, R-2, and R-3 zones to allow additional capacity within the city limits, as well as in the UAGP Planning Area (outside the city limits). This alternative would result in new development, which would change the visual character of the land and introduce new sources of light and glare; however, the Design Guidelines and existing standards would reduce aesthetic/visual impacts to a less than significant

level in the same way that they would reduce impacts for the proposed Project. Comparatively, there would be slightly less aesthetic/visual impacts under this alternative.

Agricultural Resources

The proposed UAGP would result in significant and unavoidable impacts related to the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use. Development under the UAGP could convert approximately 8,045 acres of Prime Farmland, approximately 873 acres of Unique Farmland, approximately 96 acres of Farmland of Statewide Importance and approximately 112 acres of Farmland of Local Importance to urban uses predominately within the Planned Urbanizing Area. The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to agricultural land, therefore, it would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area. Comparatively, there would be similar agricultural resources impacts under this alternative.

Air Quality

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, which is directly correlated to emissions and air quality. Additionally, the increased concentration of people will increase emissions associated with other activities such as area source and energy demand. The new development would still be subject to all existing local regulations related to emissions, including project-level thresholds of significance. Overall, increased density would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would emissions beyond what was anticipated. Comparatively, there would be less air quality impacts under this alternative.

Biological Resources

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of

residential units that could be developed within these zones. The density changes would not increase or decrease the amount of habitat that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to habitat, therefore, it would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of habitat that was originally anticipated to be converted to urban development under the existing UAGP planning area. Comparatively, there would be similar biological resources impacts under this alternative.

Cultural and Tribal Resources

General Plan buildout could impact prehistoric and historic resources due to site development activities. Known historical resources are primarily located within the Baseline Developed Area, but there may be unknown resources in the other areas. The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to cultural or tribal resources, therefore, it would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. Comparatively, there would be a similar cultural and tribal resources impact under this alternative.

Geology and Soils

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but it will increase the population density in the areas that are developed. While there would be more population density within areas planned for development, the density change would not increase the risk of earthquake faults, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. All buildings and infrastructure would continue to be designed and constructed in accordance with seismic design standards established by the State to minimize seismic risks.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease

the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. Comparatively, there would be similar geology/soils impacts under this alternative.

Greenhouse Gases, Climate Change and Energy

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, but also increase bike and pedestrian travel, and concentrate more use proximate to services. VMT is directly correlated to GHG emissions. The VMT per capita is expected to decrease by 10 percent over the UAGP buildout horizon. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project. Regardless, new development would be subject to all existing local regulations related to emissions, including General Plan goals and policies, AB 32, SB 375, and SB 32. UAGP implementation is anticipated to have a significant GHG impact and could conflict with a plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This impact was determined to be significant and unavoidable.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would increase the housing capacity and population concentration. It was determined that by not increasing the density, there would be a smaller VMT efficiency on a per capita basis when compared to the proposed Project, which would also result in a smaller GHG efficiency on a per capita basis. Comparatively, there would be larger GHG impacts under this alternative.

Hazards and Hazardous Materials

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the use of hazardous materials, including the routine transport of hazardous materials, concentrated in the more densely populated areas. The density change would cause an indirect impact related to hazards and hazardous materials from the increased concentration of hazardous materials in these areas. Nevertheless, the increased density would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing federal, state, and local regulations related to the use and transport of hazardous materials; therefore, it would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would it increase the use or transport of hazardous materials. Comparatively, there would be less hazards and hazardous materials impacts under this alternative.

Hydrology and Water Quality

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the impervious surfaces in the more densely populated areas. The density change would cause a physical change related to hydrology, which would likely result in a need for more storm drainage basin area to account for the increased impervious surfaces. Nevertheless, the increased impervious surface, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing federal, state, and local regulations related to storm drainage and water quality; therefore, it would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would it increase the impervious surfaces. Comparatively, there would be less hydrology/water quality impacts under this alternative.

Land Use, Population, and Housing

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the concentration of people in the residential areas. The density change is a land use change, that would increase housing capacity and population concentration. Nevertheless, the increased housing capacity and population concentration, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing UAGP policies and would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under

the existing UAGP planning area, nor would increase housing capacity or population concentration. Comparatively, there would be a similar land use, population, and housing impact under this alternative.

Noise

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, which is directly correlated to traffic noise. Additionally, the increased concentration of people will increase noise associated with other everyday activities in these areas. The new development would still be subject to all existing local regulations related to external and internal noise at sensitive receptors; therefore, it would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the noise levels that were originally anticipated under the existing UAGP planning area. Comparatively, there would be less noise impacts under this alternative.

Public Services and Recreation

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the concentration of people in the residential areas which will increase the need for public services and recreation. Nevertheless, the increased housing capacity and population concentration, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing UAGP policies relating to public services and recreation and would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would increase demand for public services or recreation beyond what was anticipated. Comparatively, there would be less public services or recreation impacts under this alternative.

Transportation and Circulation

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase

the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, but also increase bike and pedestrian travel, and concentrate more use proximate to services. The VMT per capita is expected to decrease by 10 percent over the UAGP buildout horizon. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would increase the housing capacity and population concentration. It was determined that by not increasing the density, there would be a smaller VMT efficiency on a per capita basis when compared to the proposed Project. Comparatively, there would be larger transportation and circulation impacts under this alternative.

Utilities

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the concentration of people in the residential areas which will increase the need for utilities including storm drainage, potable water, and sanitary sewer in these areas. This would result in higher impervious services, increased water demand, and increased sewer demand, among other utilities. The new development would still be subject to all existing UAGP policies relating to utilities and would not change the previous impact determination.

The No Project (No Build) Alternative would result in no new development beyond what was anticipated in the existing General Plan. As such, this alternative would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, nor would increase demand for utilities beyond what was anticipated. Comparatively, there would be less utilities impacts under this alternative.

INCREASED DENSITY CONCENTRATION ALTERNATIVE

Aesthetics and Visual Resources

The Baseline Developed Area and Downtown Area contain lands that are mostly developed with urban uses and are not expected to change substantially. With the proposed Project, increased densities would be allowed in the Baseline Developed Area and Downtown Area, but there are fewer areas where new development would be expected to occur in these areas. In those areas where new development occurs in the Baseline Developed Area and Downtown Area, it would be anticipated to develop at the higher allowed densities. However, most of the new development, including the allowed increased density, would occur within the Planned Urbanizing Area. This is where the aesthetic/visual change would be more noticeable as new development occurs. The

higher densities would result in more light sources, more people concentrated in the area, and a denser housing product. The City of Modesto uses Design Guidelines and other existing standards (i.e. lighting standards) to ensure that new development is attractive and functional, and that lighting is not intrusive on neighbors or the night sky. Compliance with the Design Guidelines and existing standards is anticipated to reduce aesthetic/visual impacts to a less than significant level even with higher densities.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but residential density would be concentrated in a few targeted areas, such as the Downtown Area and Baseline Developed Area, while leaving other areas, such as the Planned Urbanizing Area, with the existing densities. This alternative would result in new development, which would change the visual character of the land and introduce new sources of light and glare; however, the Design Guidelines and existing standards would reduce aesthetic/visual impacts to a less than significant level in the same way that they would reduce impacts for the proposed Project. Comparatively, there would be slightly less aesthetic/visual impacts under this alternative.

Agricultural Resources

The proposed UAGP would result in significant and unavoidable impacts related to the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use. Development under the UAGP could convert approximately 8,045 acres of Prime Farmland, approximately 873 acres of Unique Farmland, approximately 96 acres of Farmland of Statewide Importance and approximately 112 acres of Farmland of Local Importance to urban uses predominately within the Planned Urbanizing Area. The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to agricultural land, therefore, it would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of agricultural land that was originally anticipated to be converted to urban development under the existing UAGP planning area, which was determined to be a significant and unavoidable impact. In effect, the density change would not cause any direct physical changes related to agricultural land, therefore, it would not change the previous impact determination of significant and unavoidable. Comparatively, there would be similar agricultural resources impacts under this alternative.

Air Quality

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of

residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, which is directly correlated to emissions and air quality. Additionally, the increased concentration of people will increase emissions associated with other activities such as area source and energy demand. The new development would still be subject to all existing local regulations related to emissions, including project-level thresholds of significance. Overall, increased density would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people in the residential areas in the Baseline Developed Area and Downtown Area, which would increase the emissions in these areas. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area, which would result in no change in anticipated emissions in that area. Comparatively, there would be slightly less air quality impacts under this alternative.

Biological Resources

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of habitat that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to habitat, therefore, it would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of habitat that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to habitat, therefore, it would not change the previous impact determination. Comparatively, there would be similar biological resource impacts under this alternative.

Cultural and Tribal Resources

The General Plan buildout could impact prehistoric and historic resources due to site development activities. Known historical resources are primarily located within the Baseline Developed Area, but there may be unknown resources in the other areas. The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was

originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to cultural or tribal resources, therefore, it would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area. In effect, the density change would not cause any direct physical changes related to cultural or tribal resources, therefore, it would not change the previous impact determination. Comparatively, there would be similar Cultural and Tribal resource impacts under this alternative.

Geology and Soils

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but it will increase the population density in the areas that are developed. While there would be more population density within areas planned for development, the density change would not increase the risk of earthquake faults, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. All buildings and infrastructure would continue to be designed and constructed in accordance with seismic design standards established by the State to minimize seismic risks.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but it will increase the population density in the Baseline Developed Area and Downtown Area. While there would be more population density within these areas planned for development, the density change would not increase the risk of earthquake faults, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. All buildings and infrastructure would continue to be designed and constructed in accordance with seismic design standards established by the State to minimize seismic risks. Comparatively, there would be similar geology/soils impacts under this alternative.

Greenhouse Gases, Climate Change and Energy

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, but also increase bike and pedestrian travel, and concentrate more use proximate to services. VMT is directly correlated to GHG emissions. The VMT per capita is expected to decrease

by 10 percent over the UAGP buildout horizon. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project. Regardless, new development would be subject to all existing local regulations related to emissions, including General Plan goals and policies, AB 32, SB 375, and SB 32. UAGP implementation is anticipated to have a significant GHG impact and could conflict with a plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This impact was determined to be significant and unavoidable.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people, traffic, and VMT originating in the Baseline Developed Area and Downtown Area. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. It was determined that not increasing the density, there would result in a smaller VMT efficiency on a per capita basis, which also results in a smaller GHG efficiency on a per capita basis, when compared to the proposed Project. This smaller efficiency would only apply in the Planned Urbanizing Area under this alternative. Comparatively, there would be a larger transportation and circulation impact under this alternative. Comparatively, there would be larger GHG impacts under this alternative.

Hazards and Hazardous Materials

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the use of hazardous materials, including the routine transport of hazardous materials, would be concentrated in the more densely populated areas. The density change would cause an indirect impact related to hazards and hazardous materials from the increased concentration of hazardous materials in these areas. Nevertheless, the increased density would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing federal, state, and local regulations related to the use and transport of hazardous materials; therefore, it would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but it will increase the use of hazardous materials, including the routine transport of hazardous materials, in the more densely populated areas in the Baseline Developed Area and Downtown

Area. While there would be more use of hazardous materials, including the routine transport of hazardous materials, within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. Comparatively, there would be slightly less hazards and hazardous materials impacts under this alternative.

Hydrology and Water Quality

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the impervious surfaces in the more densely populated areas. The density change would cause a physical change related to hydrology, which would likely result in a need for more storm drainage basin area to account for the increased impervious surfaces. Nevertheless, the increased impervious surface, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing federal, state, and local regulations related to storm drainage and water quality; therefore, it would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but it will increase the amount of impervious surface and need for storm drainage basins in the Baseline Developed Area and Downtown Area. While there would be more impervious surface and need for storm drainage basins within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. Comparatively, there would be slightly less hydrology/water quality impacts under this alternative.

Land Use, Population, and Housing

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the concentration of people in the residential areas. The density change is a land use change, that would increase housing capacity and population concentration. Nevertheless, the increased housing capacity and population concentration, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing UAGP policies and would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people in the residential areas in the Baseline Developed Area and Downtown Area. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. Therefore, comparatively, there would be similar land use, population, and housing impacts under this alternative.

Noise

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, which is directly correlated to traffic noise. Additionally, the increased concentration of people will increase noise associated with other everyday activities in these areas. The new development would still be subject to all existing local regulations related to external and internal noise at sensitive receptors; therefore, it would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people in the residential areas in the Baseline Developed Area and Downtown Area, which would increase the noise levels in these areas. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. Comparatively, there would be slightly less noise impacts under this alternative.

Public Services and Recreation

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the concentration of people in the residential areas which will increase the need for public services and recreation. Nevertheless, the increased housing capacity and population concentration, would not result in more land converted for urban development, since the UAGP boundary will remain unchanged. The new development would still be subject to all existing UAGP policies relating to public services and recreation and would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people and demand for public services and recreation in the Baseline Developed Area and Downtown Area. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. Comparatively, there would be slightly less public services and recreation impacts under this alternative.

Transportation and Circulation

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes will increase the concentration of people in the residential areas which will increase the vehicular traffic on the roadways, but also increase bike and pedestrian travel, and concentrate more use proximate to services. The VMT per capita is expected to decrease by 10 percent over the UAGP buildout horizon. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people, traffic, and VMT originating in the Baseline Developed Area and Downtown Area. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. It was determined that not increasing the density, there would result in a smaller VMT efficiency on a per capita basis when compared to the proposed Project, which would only apply in the Planned Urbanizing Area under this alternative. Comparatively, there would be larger transportation and circulation impacts under this alternative.

Utilities

The proposed density changes to the residential General Plan land uses, as well as the R-1, R-2, and R-3 zones, will increase the densities that are allowed and will increase the number of residential units that could be developed within these zones. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, however, the higher density will increase the concentration of people in the residential areas which will increase the need for utilities including storm drainage, potable water, and sanitary sewer in these areas. This would result in higher impervious services, increased water demand, and increased sewer demand, among other

utilities. The new development would still be subject to all existing UAGP policies relating to utilities and would not change the previous impact determination.

This alternative would still be developed with the same uses as the proposed Project, but would have the density increases concentrated in the Baseline Developed Area and Downtown Area. The density changes would not increase or decrease the amount of land that was originally anticipated to be converted to urban development under the existing UAGP planning area, but the higher density will increase the concentration of people and demand for utilities in the Baseline Developed Area and Downtown Area. While there would be more concentration of people in the residential areas within Baseline Developed Area and Downtown Area, there would be no change in the Planned Urbanizing Area. Comparatively, there would be slightly less utilities impacts under this alternative.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

As Table 5.0-1 presents a comparison of the alternative Project impacts with those of the proposed Project. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Increased Density Concentration Alternative would be the environmentally superior alternative because all environmental issues would have reduced impacts compared to the proposed Project. It is noted that neither the No Project Alternative nor the Increased Density Concentration Alternative fully meet all the Project objectives.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*INCREASED DENSITY CONCENTRATION ALTERNATIVE*
Aesthetics and Visual Resources	Slightly Less	Slightly Less
Agricultural Resources	Equal	Equal
Air Quality	Less	Slightly Less
Biological Resources	Equal	Equal
Cultural and Tribal Resources	Equal	Equal
Geology and Soils	Equal	Equal
Greenhouse Gases, Climate Change and Energy	Larger	Larger
Hazards and Hazardous Materials	Less	Slightly Less
Hydrology and Water Quality	Less	Slightly Less
Land Use, Population, and Housing	Equal	Equal
Noise	Less	Slightly Less
Public Services and Recreation	Less	Slightly Less
Transportation and Circulation	Larger	Larger
Utilities	Less	Slightly Less

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

This Page Intentionally Left Blank.

CITY OF MODESTO

Michael Hren, AICP ..... Principal Planner

DE NOVO PLANNING GROUP

Steve McMurtry ..... Principal Planner/Project Manager

Josh Smith ..... Senior Planner

Jeff Setterlund ..... Associate Planner

Kolton Kladifko ..... Assistant Planner

Iteris – Transportation Consultant

Chris Devlin ..... Senior Engineer

Sean T. Daily ..... Senior Planner

Deepak Kaushik ..... Transportation Engineer

Saxelby Acoustics – Noise Consultant

Luke Saxelby ..... Principal

This page left intentionally blank.

Adams, Frank. Irrigation Districts in California, Bulletin 21. Sacramento: California Printing Office, 1929.

Army Corps of Engineers. Modesto West, California. Washington D.C: US Army Corps of Engineers, 1940.

Automobile Club of Southern California and the California State Automobile Association. The State Highways of California. Los Angeles, CA: Automobile Club of Southern California, 1921.

Baggese, Carl P. Postcard History Series: Modesto. Charleston, SC: Arcadia Publishing, 2011.
Barnes, Dwight H. Greening of Paradise Valley: The First 100 years (1887-1987) of the Modesto Irrigation District. Modesto, California: Modesto Irrigation District, 1987.

Bay Area Air Quality Management District (BAAQMD). 2017. Spare the Air: Cool the Climate. April. San Francisco, CA. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

Beachler, Lowell Harvey. Wood Colony District: A Collection of Records of the Old German Baptist Brethren Church in the Wood Colony Community Between Modesto and Salida in Stanislaus County Mainly From 1903 to 1937. Modesto, California: Lowell H. Beachler, 2003.

Blow, Ben. California Highways: A Descriptive Record of Road Development By the State and By Such Counties as Have Paved Highways. San Francisco, CA: H. S. Crocker Co., Inc., 1920.

Bramhall, John T. The Story of Stanislaus. Modesto, CA: Modesto Herald, 1914.

Bryant, Jr., Keith L. History of the Atchison, Topeka & Santa Fe Railway. Lincoln: University of Nebraska Press, 1974.

C. Donald Ahrens. 2006. Meteorology Today: An Introduction to Weather, Climate, & the Environment.

California Air Pollution Control Officers Association (CAPCOA). 2010. Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

California Air Pollution Control Officers Association (CAPCOA). 2016. Air Toxics Hotspot Program. Available: http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf

California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: https://ww3.arb.ca.gov/ch/handbook.pdf

California Air Resources Board (CARB). 2014. Background Material: Almanac of Emissions and Air Quality 2013 Edition - Chapter 4 Regional Trends and Forecasts. Page last reviewed on February 7, 2014. Available: https://ww3.arb.ca.gov/aqd/almanac/almanac13/chap413.htm

California Air Resources Board (CARB). 2024. GHG Current California Emission Inventory Data. Available: https://ww2.arb.ca.gov/ghg-inventory-data

California Air Resources Board (CARB). 2024. EMFAC2021 Web Database. Available: https://arb.ca.gov/emfac/emissions-inventory/09590422a9103f04ce5db80b46f2b5ec99d776fb

California Air Resources Board (CARB). 2024. Area Designations Maps/State and National. Available: https://www.arb.ca.gov/desig/adm/adm.htm

California Air Resources Board. 2024. iADAM: Air Quality Statistics. Available: https://www.arb.ca.gov/adam

California Air Resources Board (CARB). 2024a. California Ambient Air Quality Standards (CAAQS). Available: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm

California Air Resources Board (CARB). 2024b. ARB Databases: Aerometric Data Analysis and Management System (ADAM). Available at: https://www.arb.ca.gov/adam/trends/trends1.php

California Air Resources Board (CARB). 2024. Carbon Monoxide and Health. Available: https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health

California Department of Conservation. Stanislaus County Williamson Act FY 2010/2011, Sheet 1 of 2. Sacramento, California: Department of Conservation, Division of Land Resources Protection, 2012. ftp.consrv.ca.gov/pub/dlrp/wa/stanislaus_north_10_11_WA.pdf

California Department of Water Resources (DWR). 2004. California's Groundwater, Bulletin 118: San Joaquin Valley Groundwater Basin, Modesto Subbasin. Accessed December 12, 2024. Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_02_ModestoSubbasin.pdf

California Department of Water Resources (DWR). 2006a. California's Groundwater, Bulletin 118: San Joaquin Valley Groundwater Basin, Delta- Mendota Subbasin. Accessed December 12, 2024. Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_07_Delta-MendotaSubbasin.pdf

California Department of Water Resources (DWR). 2006b. California's Groundwater, Bulletin 118: San Joaquin Valley Groundwater Basin, Turlock Subbasin. Accessed December 12, 2024.

Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_03_TurlockSubbasin.pdf

California Department of Transportation. Historic Bridge Inventory. 1986.

California Energy Commission. 2023. Energy Almanac. Available: https://www.energy.ca.gov/data-reports/energy-almanac

California Environmental Protection Agency. 2010. Climate Action Team Report to Governor Schwarzenegger and the Legislature. December 2010. Available: http://www.climatechange.ca.gov/climate_action_team/reports/

Carleton, D.C. Official Map of the county of Stanislaus. Modesto, CA: Stanislaus Land and Abstract Co, 1906.

Carollo Engineers. 2016a. City of Modesto Collection System Master Plan.

Carollo Engineers. 2016b. City of Modesto Wastewater Collection System Master Plan.

CASGEM Groundwater Basin Prioritization Results, South Central Region, Sorted by Basin Name. 2014. Available: https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization

Central Valley Business Journal. "Almonds nudge out milk as Stanislaus County's top crop." Central Valley Business Journal, August 13, 2014.

City of Modesto. 2008. 2008 Storm Drainage Master Plan. Prepared by Stantec. March.

City of Modesto. 2009. Stormwater Management Plan. https://www.modestogov.com/1515/Storm-Water

City of Modesto. 2010. Local Hazard Mitigation Plan 2010 – 2015. http://hazardmitigation.calema.ca.gov/docs/approved_lhmps_under_2008_fema_guidance/Modesto_LHMP.pdf

City of Modesto. 2011. 2011 Guidance Manual for Development Stormwater Quality Control Measures. May. Prepared for NPDES Permit No. CAS083626; Order R5-2008-0092. Revised February 2015.

City of Modesto. 2016. 2015 Water Quality Report (Modesto System – 5010010).

City of Modesto. 2016. Municipal Stormwater Program Annual Progress Report 2015-2016.

City of Modesto. 2017. *Water Plans & Reports*. Retrieved from https://www.modestogov.com/847/Water-Plans-Reports

City of Modesto. 2020. *Joint 2020 Urban Water Management Plan*. Retrieved from https://www.modestogov.com/DocumentCenter/View/17262/Joint-2020-Urban-Water-Management-Plan-PDF

Curtis, Walter E. "Modesto Freeway." California Highway and Public Works. September-October 1965. Elliot, W. W. "Birds Eye View of Modesto, Stanislaus County, Cal., 1888." San Francisco: W. W. Elliot, 1888.

East San Joaquin Water Quality Coalition. 2015. Groundwater Quality Management Plan. Prepared for the State Water Resources Control Board's Irrigated Lands Regulatory Program.

Federal Emergency Management Agency (FEMA). 2016. National Flood Hazard Layer (Official).

Groundwater Information Center: Interactive Map Application. 2017. Available: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

Gould Maino, Jeannette. One Hundred Years… Modesto, California 1870-1970. Modesto, CA: Belt Printing & Lithograph Co., 1970.

Harding, S. T. Water in California. Palo Alto, CA: N-P Publications, 1960.

Hart, James D. A Companion to California. New York: Oxford University Press, 1978.

History of Stanislaus County, California. San Francisco: Elliott & Moore, Publishers, 1881. Hocking, T.C. Sunny Stanislaus, the Gateway County of the Great San Joaquin Valley, California. Modesto, California: Stanislaus Board of Trade, 1902.

Hundley Jr., Norris. The Great Thirst: Californians and Water, 1770s-1990s (Berkeley: University of California Press, 1992.

ICF International. Draft Historical Resources Evaluation Report for the Proposed SR 132 West Freeway/Expressway Project (10-STA-132 PM10.4-15.0 EA 10-403500). Caltrans District 10, July 2011.

Intergovernmental Panel on Climate Change (IPCC). 2023. "Climate Change 2023: Synthesis Report." Available at: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf

Irrigation District Bond Commission. "Report on Modesto Irrigation District." .Sacramento, CA: California State Printing Office, June 29, 1914.

Iteris. 2024. Modesto General Plan Amendment Vehicle Miles Traveled (VMT) Traffic Study. 2024.

Jelinek, Lawrence J. Harvest Empire: A History of California Agriculture. San Francisco: Boyd & Fraser Publishing Company, 1979.

JRP Historical Consulting Services. Water Conveyance Systems in California. Sacramento, California: California Department of Transportation, 2000.

JRP Historical Consulting Services. "Caltrans Historic Bridge Inventory Update: Concrete Arch Bridges." Prepared for State of California, Department of Transportation, Environmental Program. April 2004.

"Caltrans Historic Bridge Inventory Update: Timber Truss, Concrete Truss, and Suspension Bridges." Prepared for State of California, Department of Transportation, Environmental Program. April 2004.

Leonard, John B. and William P. Day. "The Concrete Bridge: How it has Proved itself in California." San Francisco: Leonard & Day, 1913.

Maino, Jeannette Gould. One Hundred Years… Modesto, California 1870-1970. Modesto, CA: Belt Printing & Lithograph Co., 1970.

McAlester, Virginia and Lee McAlester. A Field Guide to American Houses. New York: Alfred A. Knopf, 1992.

Meyer, J.G. "Modesto Project." California Highways and Public Works, September- October 1963. Mikesell, Stephen D. "Cantricrete Bridge Rating Sheet." Bridge #: 38C-23, 18 August 1986.

Historic Highway Bridges of California. Prepared for California Department of Transportation, 1990.

Modesto Radio Museum. "Hammond U.S. Army Hospital."

National Aeronautics and Space Administration (NASA). Jet Propulsion Laboratory. 2015. NASA: Background Ozone is a Major Issue in U.S. West. Available: https://www.jpl.nasa.gov/news/news.php?feature=4723

National Park Service. "National Register of Historic Places Information System, online database."

O'Haire, Milton. 2012 Annual Crop Report, Modesto, CA, Stanislaus County Agricultural Commissioner and Sealer of Weights and Measures, 2012.

Office of Historic Preservation. "Historic Property Data File, Stanislaus County." March 20, 2014.

Office of Historic Preservation. California Historical Landmarks. Sacramento: California State Parks, 1996.

Office of Historic Preservation. California Points of Historical Interest. Sacramento: California State Parks, May 1992.

Online Archive of California. "Inventory of the Department of Mental Hygiene – Modesto State Hospital Records." Online Archive of California, http://www.oac.cdlib.org/findaid/ark:/13030/tf267n98b9/

Pacific Rural Press. Paterson, Alan. Land, Water and Power: A History of the Turlock Irrigation District, 1887-1987. Glendale, CA: Arthur H. Clark Co., 1987.

Pisani, Donald J. From the Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850-1931. Berkeley: University of California Press, 1984.

Raup, Philip M. "Disaggregating Farmland Markets." In Government Policy and Farmland Markets: The Maintenance of Farmer Wealth, edited by Charles Moss and Andrew Schmitz. Ames, Iowa: Iowa State Press, 2003.

Rawls, James J., and Walton Bean. California and Interpretive History. New York: McGraw Hill, 1993. Reynolds, John E., and Warren Johnston. "Micro-markets for Farmland: The Case of Florida and

California." In Government Policy and Farmland Markets: The Maintenance of Farmer Wealth, edited by Charles Moss and Andrew Schmitz, 367-390. Ames, Iowa: Iowa State Press, 2003.

Rhodes, Jr., Benjamin Franklin. "Thirsty Land: The Modesto Irrigation District, A Case Study of Irrigation under the Wright Law." PhD Dissertation, University of California, Berkeley, 1943.

San Joaquin Air Pollution Control District (SVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2025. Available: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf

San Joaquin Air Pollution Control District (SVAPCD). 2024. Frequently Asked Questions. Available: http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley

Santos, Bob, and Lisa Bruk, ed. Stanislaus County History from the Pages of Stanislaus Stepping Stones. Modesto, California: McHenry Museum & Historical Society, 2004.

Santos, Robert L. "Dairying in California through 1910." Southern California Quarterly 17 (Summer 1994): 175-194.

Sbranti, J.N. "Stanislaus Sees huge Increase in Almond Orchards as Demand Soars," Modesto Bee, July 27, 2013.

Smith, Richard Harold. “Towns Along the Tracks Railroad Strategy and Town Promotion in the San Joaquin Valley, California.” PhD Dissertation, University of California, Los Angeles, 1976.

Snyder, John W. “Buildings and Bridges for the 20th Century.” California History. Fall 1984.

“The Bridges of John B. Leonard, 1905 to 1925.” Concrete International. June 1984.

Snyder, John and Steve Mikesell. “The Consulting Engineer and Early Concrete Bridges in California.” Concrete International. May 1994.

Stanley Bare, Colleen. Modesto Then and Now. Modesto, CA: McHenry Museum Press, 1999. Tinkham, George H. History of Stanislaus County California. Los Angeles, California: Historic Record Company, 1921.

Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA). 2005. Integrated Regional Groundwater Management Plan for the Modesto Subbasin. Available: www.strgba.org/docs/integrated%20regional%20 groundwater%20management%20plan%20for%20the%20mode.pdf

Stanislaus Cities-County Advance Planning Staff. “An Emerging Metropolis 1981?: Metropolitan Patterns; A Preliminary Study of the Modesto-Ceres Area.” [1958].

Stanislaus Council of Governments (StanCOG). 2016. Stanislaus County Forecast Summary. Available: www.stancog.org/pdf/2016ForecastSummary.pdf.

Stanislaus County. 2014. Drought 2014 – Economic Impact. Accessed September 28, 2017. Available: www.mid.org/water/drought/documents/Drought2014.pdf

Stanislaus County. 2016. Modesto Reservoir Fees, Rules and Regulations.

Stanislaus County Recorder. “Plat of Survey for J.W. Nolan and others.” 1905 Map Books, vol 2, 23

Stanislaus County Recorder. “Plat of the Maze Colony.” 1903 Map Books, vol 1, 83.

Stanislaus County Recorder. “Stanislaus County Recorded Maps GIS.”

State Water Resources Control Board (SWRCB). 2015. Final 2012 California Section 303(d) List. Accessed: December 12, 2024; http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml

Turlock Groundwater Basin Association (TGBA). 2008. Turlock Groundwater Basin Groundwater Management Plan. Prepared for Turlock Irrigation District. March 18. Available: https://www.tid.org/wp-content/uploads/2017/06/TID2015AWMP-Attachments_Public_Review-2.pdf

Turlock Irrigation District. 2010. La Grange Dam. October 2010.

United States Energy Information Administration (U.S. EIA). 2020a. Analysis and Projections. Short-term Energy Outlook. Release date: December 10, 2024. Available at: https://www.eia.gov/outlooks/steo/report/global_oil.php

United States Energy Information Administration (U.S. EIA). 2024. California State Energy Profile. Last updated May 16, 2024. Available at: https://www.eia.gov/state/print.php?sid=CA

United States Energy Information Administration (U.S. EIA). 2024. Independent Statistics and Analysis. Frequently Asked Questions. Last updated October 9, 2024. Available at: https://www.eia.gov/tools/faqs/faq.php?id=33&t=6

United States Energy Information Administration (U.S. EIA). 2022. California End-Use Energy Consumption 2022, Estimates. Available at: https://www.eia.gov/beta/states/states/ca/overview

United States Energy Information Administration (U.S. EIA). 2022. California Natural Gas Marketed Production. Available at: https://www.eia.gov/dnav/ng/hist/n9050ca2M.htm

United States Environmental Protection Agency (USEPA). 2017. Sulfur Dioxide Concentrations – EPA. Available: https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=91

United States Environmental Protection Agency (USEPA). 2021. Commercial Buildings Energy Consumption Survey (CBECS). Available: https://www.eia.gov/consumption/commercial/data/2012/bc/cfm/b2.php

United States Environmental Protection Agency (USEPA). 2024a. Health Effects of Ozone Pollution. Available: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution

United States Environmental Protection Agency (USEPA). 2024b. Health Effects of Ozone In the General Population. Available: https://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population

United States Environmental Protection Agency (USEPA). 2024c. Health and Environmental Effects of Particulate Matter (PM). Available: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm

United States Environmental Protection Agency (USEPA). 2024. Basic Information About Carbon Monoxide (CO) Outdoor Air Pollution. Available: https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution

United States Environmental Protection Agency (USEPA). 2024e. Basic Information About Lead Pollution. Available: https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#how

United States Environmental Protection Agency (USEPA). 2024. Sulfur Dioxide Concentrations – EPA. Available: https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=91

U.S. Army Corps of Engineers. Modesto East Quadrangle. 15 Minute Series (Topographic). Washington, D.C.: U.S. Army Corps of Engineers, 1939.

U.S. Bureau of Reclamation. 2016. Central California Area Office: New Melones. Accessed: December 12, 2024; http://www.usbr.gov/mp/ccao/newmelones/

U.S. Census Bureau. Manuscript Population Census, 1910. California, Stanislaus County, Modesto Township, enumeration district 152, sheets 4B-7B.

U.S. Census Bureau. Manuscript Population Census, 1920. California, Stanislaus County, Wood Colony Precinct, enumeration district 167, Sheet 18A-20A.

U.S. Census Bureau. Manuscript Population Census, 1930. California, Stanislaus, Modesto Township, enumeration district 50-28, sheets 14A-16A.

U.S. Department of Agriculture. Stanislaus County Aerial Photographs.1937, 1957, 1963. US Patent Office, Almond tree ("Wood Colony") UP PP5583 P, March 26, 1984.

USGS, Salida, Quadrangle. 7.5 Minute Series (Topographic). Washington, D.C.: USGS, 1953, 1969, 1976. Ceres Quadrangle. 7.5 Minute Series (Topographic). Washington, D.C.: U.S. Geological Survey, 1953, 1969, 1976, 1987. Riverbank Quadrangle. 7.5 Minute Series (Topographic). Washington, D.C.: U.S. Geological Survey, 1953, 1969, 1976, 1987.

This page left intentionally blank.

Appendices

APPENDIX A

NOP and NOP Comments

NOTICE OF PREPARATION

TO: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Interested Organizations

FROM: Michael Hren, AICP | Principal Planner
City of Modesto | Planning Division
1010 10th St.,
Modesto, CA 95354
209-577-5273
mhren@modestogov.com

SUBJECT: Notice of Preparation – Environmental Impact Report for Amendments to the Modesto Urban Area General Plan and Zoning Ordinance

Notice is hereby given that the City of Modesto is the lead agency for the preparation of an Environmental Impact Report (EIR) to consider amendments to the General Plan and Zoning Ordinance to ratify and conform the land use and zoning designations with the changes adopted in the General Plan's Housing Element. Housing Element Program A-2 required rezoning of parcels on McHenry, Sisk, Oakdale, and Yosemite to new Mixed-Use-Pedestrian (MU-P) and Mixed-Use-Highway (MU-H) zones, and modified P-D parcels to allow for 45 du/ac to create a net new capacity for 21,014 units within the City. Housing Element Program A-4 directed the City to increase the maximum density of the R-1 zone from 7.5 to 10.9, the R-2 zone from 14.5 to 22, and the maximum density of the R-3 zone from 29 to 45. The proposed Project implements these Housing Element Programs and will create internal consistency within the General Plan and Zoning Ordinance. The EIR will also examine the amendments to the General Plan that have taken place since 2019 and update the environmental analysis of those changes in the EIR. A detailed Project Description can be reviewed at the City or by accessing the City's website https://modestogov.com/784/General-Plan-Master-EIR..

The City needs to know your views as to the scope and content of the environmental information germane to the proposed project. Due to the time limits mandated by State law, your response must be sent and received by the City of Modesto not later than 30 days following the publication of this Notice of Preparation. The 30-day review period begins September 27, 2024 and ends on October 28, 2024. If we do not receive a response from your agency or organization, we will presume that your agency or organization has no response to make. A responsible agency, trustee agency, or other public agency may request a meeting with the City or its representatives in accordance with Section 15082(c) of the CEQA Guidelines. Please send your response to Michael Hren, AICP | Principal Planner at the City of Modesto | Planning Division, 1010 10th Street, Modesto, CA 95354. If you have any questions, please contact Modesto Planning at 209-577-5267 or via email at: planning@modestogov.com.

SCOPING MEETING: A virtual scoping meeting for this project will be held on October 11, 2024 from 2:00 p.m. to 3:00 p.m. You may attend the meeting by going to https://modestogov.zoom.us/j/87994952167 and clicking "join."

PROBABLE ENVIRONMENTAL EFFECTS AND SCOPE OF THE EIR: All environmental topics identified in Appendix G of the State CEQA Guidelines will be analyzed within the EIR, including: Aesthetics, Agricultural and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology/Soils, Greenhouse Gases/Climate Change, Hazards and Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Transportation/Circulation, Tribal Resources, Utilities and Service Systems, Wildfire, Cumulative Impacts, and Growth Inducing Impacts. An Initial Study has not been prepared for the proposed Project.

1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate change and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 et seq.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

CITY OF MODESTO GENERAL PLAN

Adoption of the 2019 General Plan

In 2011, the City of Modesto launched its most recent City-initiated General Plan Update, after being awarded a US HUD-DOT-EPA federal planning grant as one of 14 San Joaquin Valley cities known as the Smart Valley Places (SVP) consortium. The comprehensive General Plan update was a multi-year project that ultimately resulted in changes to nearly every chapter, section, and element of Modesto's General Plan. The City certified a Master EIR on March 6, 2019 and adopted the Modesto Urban Area General Plan (UAGP).

The adopted UAGP is Modesto's long-term, comprehensive guide for development. Its 40,600-acre planning area reaches beyond the city limits and sphere of influence. The UAGP Growth Strategy establishes three geographic areas within the plan: (1) the Downtown Area; (2) the Baseline Developed Area; and, (3) the Planned Urbanizing Area. The adopted UAGP includes a

comprehensive set of goals, policies and exhibits that establish the direction, scale / magnitude and priorities associated with Modesto's growth and development.

Amendments to the 2019 General Plan and Zoning Code

Since adoption of the UAGP in 2019, the City has approved amendments to the UAGP from time to time, as internal and external factors resulted in a need to update the document or maps. Examples of internal factors may include changing priorities and recognition of new opportunities; external factors may include new state laws and changing physical conditions or property owner requests – both development-related and environmental.

One recent change to the UAGP that is prompting the preparation of this EIR, changes made in the City of Modesto's 2023-2031 6th Cycle Housing Element. This Housing Element sets forth the City's overall housing objectives in the form of goals, policies, and programs. One specific program provided in the Housing Element required amendments to the zoning ordinance to rezone four corridors to mixed-use, and to change zoning densities to allow more residential development. Per Housing Element Program A - 2, the City rezoned parcels on McHenry, Sisk, Oakdale, and Yosemite to new Mixed-Use-Pedestrian (MU-P) and Mixed-Use-Highway (MU-H) zones, and modified P-D parcels to allow for 45 du/ac in order to create a net new capacity for 21,014 units within the City. This is an added capacity of almost twice the RHNA of 11,248, and almost three times the remaining RHNA need after factoring in pending projects and ADUs. These zoning amendments were completed in December, 2023. Beyond these zoning amendments, the Housing Element also directed the City to increase the maximum density of the R-1 zone from 7.5 to 10.9, the R-2 zone from 14.5 to 22, and the maximum density of the R-3 zone from 29 to 45, as noted in Program A - 4. This will also create opportunity for higher density residential development throughout the City.

The amendments to the Zoning Code were intended to occur across all opportunity categories, with specific geographic targeting in the higher resource areas. About 45 percent of the rezone area (13,774 units) is in high or higher resource areas, creating substantial new opportunities for housing mobility, new housing choices, affordability, and lower-income housing in eastern and northern neighborhoods. About 33 percent of the land area of the City was in an area of high or highest resource. As about 45 percent of the rezone area is in an area of high or highest resource, the rezone is promoting housing mobility and housing choice in higher resource areas at a disproportionately higher rate than the City's existing state. The City determined that the amendments to the Zoning Code were significant and meaningful enough to overcome currently identified patterns and trends.

The Housing Element indicated that the increase the densities of the R-1, R-2, and R-3 zones were intended to ensure there is continuity of permitted densities between residential zones and align more closely with recommended densities in the General Plan. Table 2.0-1 provides the Zoning and Density Guidance as directed in Program A-4.

TABLE 2.0-1: ZONING AND DENSITY GUIDANCE

General Plan Land Use Designation	*Existing Density*	*Proposed Density*
Low Density Residential (R-1)	Up to 7.5 du/ac	Less than 10.9 du/ac
Medium Density Residential (R-2)	10.9 to 14.5 du/ac	10.9 to 22 du/ac
Medium High Density Residential (R-3)	21.8 to 29 du/ac	22 to 45 du/ac
Mixed Use (MU)	Average 14 du/ac	Average 14 du/ac[1]
Mixed-Use-Pedestrian (MU-P)	N/A	22 to 45 du/ac[2]
Mixed-Use-Highway (MU-H)	N/A	22 to 45 du/ac[2]
Downtown (D)	FAR: 1 - 14	FAR: 1 - 14
Village Residential (VR)	6.6 du/ac	6.6 du/ac
Business-Commercial-Residential (BCR)	30% of ac	30% of ac
Open Space (OS)	1 du/10 ac	1 du/10 ac

SOURCE: CITY OF MODESTO, GENERAL PLAN COMMUNITY DEVELOPMENT POLICIES, 2019, AND 2023-2031 6TH CYCLE HOUSING ELEMENT.

[1]The RHNA and zoning is not reliant on the 14 du/ac. This land use designation reflects previously existing uses. The average of 14 du/ac was originally intended to be an average of the whole land use designation area, and is not enforced on a project-by-project basis. The new mixed-use zones will reflect new densities.

[2]The Mixed- Use Zones allow a range of high-density development up to 45 du/ac.

Current Project

The project analyzed in the EIR consists of two parts. First, the City will examine, at a project level, proposed amendments to the General Plan land use designations to ratify and conform the General Plan land use designations with the changes adopted in the General Plan's Housing Element. Approval of these changes will create internal consistency within the General Plan. Rejection of these changes would mean the City would need to look at new/different changes to the Housing Element in order to comply with the City's housing obligations. Second, the City will examine, at a programmatic level, the amendments to the General Plan that have taken place since 2019 and update the environmental analysis of those changes in a Programmatic EIR.

Other Efforts to Update General Plan

The City of Modesto is currently embarking on a new comprehensive update to the UAGP that will look toward the City's long-term future to reflect the issues, ideas, and aspirations of today, and plan toward the year 2050. That UAGP Update is in the early stages of a multi-year process, and is not anticipated to conclude until 2026 or later. This EIR is not intended to cover the Update to the General Plan.

2 PURPOSE OF THE EIR

The City of Modesto, as lead agency, determined that the density changes from Housing Element Programs A-2 and A-4, which changed the maximum and realistic densities expected to be developed within the existing General Plan land uses, is a "project" within the meaning of CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. The City certified a Master EIR in 2019, but since that time the City has adopted programs directing increases to residential densities.

CEQA Guidelines section 15162 sets forth the conditions and facts that require a public agency, in considering project changes or changed circumstances relating to a project that was the subject of a previously certified Final Environmental Impact Report (EIR), to prepare a so-called "subsequent EIR." When an EIR has been certified, a subsequent EIR is required if (PRC Section 21166; CEQA Guidelines Section 15162):

(1) "Substantial changes are proposed in the project which will require major revisions" to the EIR "due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;"

(2) "Substantial changes occur with respect to the circumstances," and those changes will require "major revisions" to the EIR "due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;" or

(3) "New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time" of preparation of the EIR, becomes available. Such information must show either: the project will have one or more significant effects not discussed in the previous EIR; significant effects previously examined will be substantially more severe; mitigation measures or alternatives previously found to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As one court explained in 2021, "…a subsequent EIR is necessary '[w]hen the previous EIR must be rewritten from the ground up to make its environmental analysis adequate." (*California Coastkeeper Alliance v. State Lands Commission* (2021) 64 Cal.App.5th 36, 59, quoting 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2d ed. 2019) § 19.5, p. 19-9 and *City of Irvine v. County of Orange* (2015) 238 Cal.App.4th 526, 539.)

The City determined that the density increases directed by the Housing Element, combined with the regulatory changes associated with SB 743, collectively qualify as *new information* that has become available, which was not known and could not have been known at the time that the Master EIR was certified because it did not exist. In the Laurel Heights decision, the California Supreme Court noted that the CEQA Guidelines "*generally define 'new information' as information which shows that the project will have new or more severe 'significant effects' on the environment not disclosed in the prior EIR*." (Laurel Heights Improvement Association v. Regents of the University of California (1993) 6 Cal.4th 1112, citing Guidelines Section 15162(a)(3)). A new Program-level EIR would evaluate the impacts related to the new information (i.e. density changes and VMT) that was not known when the 2019 EIR was prepared. The new EIR reuses existing information and data from the Master EIR that remains relevant and unchanged, and supplements the data/analysis where necessary to address the new information that is necessary. The City will

also examine, at a project level, the proposed changes to the General Plan's land use designations to accommodate the changes contemplated by the City's recently revised Housing Element.

3 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

"A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically;
2) As logical parts in the chain of contemplated actions;
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

The program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and the analysis in this EIR, as required under CEQA. It may be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

4 INTENDED USES OF THE EIR

The City of Modesto, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis that reflects an update to the 2019 EIR to reflect new information and changes that have occurred since the 2019 General Plan EIR was certified. Ultimately, the City intends to use this EIR to implement the General Plan and subsequent projects consistent with the General Plan. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to

examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other agencies within Stanislaus County.

In addition, this EIR will examine, at a project level, the proposed changes to the General Plan's land use designations to accommodate the changes contemplated by the City's recently revised Housing Element. This analysis will be used to inform the City Council of any environmental impacts associated with such changes.

ANTICIPATED SUBSEQUENT PROJECTS

CEQA Guidelines Section 15183 allows a streamlined environmental review process for projects that are consistent with the densities established by existing zoning, community plan or general plan policies for which an Environmental Impact Report (EIR) was certified. The City anticipates relying on Section 15183 and other streamlining provisions for future projects.

Anticipated Future Projects

There are a variety of future projects that the City anticipates to be within the scope of this EIR, unless it later finds that any of the conditions of CEQA Guidelines Section 15183(b) are relevant to the future project. The project types are listed below:

- Sphere-of-Influence Amendment
- Annexation
- Specific Plans/Community Plans
- Zoning
- Conditional Use Permits
- Development Plan Review (Authorized under Section 10-9.1005 of the Modesto Municipal Code)
- Conditional Use Permits (Authorized under Section 10-9.701 of the Modesto Municipal Code)
- Variances (Authorized under Section 10-9.601 of the Modesto Municipal Code)
- Building Permits (Authorized under Title 9 of the Modesto Municipal Code)
- Subdivisions
- Development Agreements
- Capital Improvement Program
- Parks Facilities Plans
- Household Hazardous Waste Element

- Source Reduction and Recycling Element
- Public Facilities Financing Plans

5 PROJECT LOCATION

Modesto is in Stanislaus County, in the northern San Joaquin Valley, approximately 95 miles east of San Francisco and 80 miles south of Sacramento (See Figure 2-1 Vicinity Map). The City of Ceres is located immediately south of the Modesto city limits, the City of Riverbank is located immediately northeast, and the unincorporated town of Salida is located northwest.

6 MODESTO URBAN AREA GENERAL PLAN (UAGP)

UAGP PLANNING AREA

There are two key boundary lines addressed by the UAGP that make up the study area for the EIR. These include the City Limits, and the Planning Area, as shown on Figure 2-2 and described below.

City Limits

Includes the area within the City's corporate boundary, over which the City exercises land use authority and provides public services.

Planning Area

For the purposes of the UAGP, the Planning Area is the geographic area for which the General Plan provides a framework for long-term plans for growth. State law requires the General Plan to include all territory within incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the UAGP includes the entire City Limits, plus areas in the unincorporated areas proximately to the city limits that the City deemed appropriate for development as part of the City Growth Strategy.

UAGP GROWTH STRATEGY

The UAGP Growth Strategy Diagram identifies three subareas within the Modesto Planning Area: the Downtown Area, the Baseline Developed Area, and the Planned Urbanizing Area. These three subareas are illustrated in Figure 2-3. Application of the EIR analyses and mitigating policies varies among these areas. The City's procedures are described as follows.

Downtown Area

The Downtown has been the focal point of planning and zoning efforts, such as establishing the Downtown Zones that facilitate increased development potential both in terms of density / intensity, and in accommodating a broader range of land uses and development types. The purposes of focusing on Downtown for new growth and development are to enhance the economic vitality of the City, reduce costs associated with provision of services and reduce the potentially negative environmental consequences associated with the sprawl-type development patterns that have been commonplace throughout the region over the past century.

Within Downtown, the UAGP would reflect existing zoning. As a result, this area generally would be developed according to the existing zoning designations. If a subsequent project within this area conforms to the proposed UAGP, the initial study for the project would find it to be within the scope of this EIR and no future environmental review would be required unless there could be a project-specific impact that was not analyzed in the EIR.

All mitigation measures adopted as part of the 2019 EIR and applicable to the Downtown Area will be incorporated into the new Program EIR. Additionally, the City will file a notice for future projects where it is found that the future project is within the scope of the new Program EIR.

Baseline Developed Area

The Baseline Developed Area reflects areas that are developed or anticipated to develop according to existing zoning. If a subsequent project within this area conforms to the proposed UAGP, the initial study for the project would find it to be within the scope of this EIR and no future environmental review would be required unless there is a project-specific impact that was not analyzed in the EIR.

All mitigation measures adopted as part of the 2019 EIR and applicable to the Baseline Development Area will be incorporated into the new Program EIR. Additionally, the City will file a notice for future projects where it is found that the future project is within the scope of the new Program EIR.

Planned Urbanizing Area

The Planned Urbanizing Area encompasses the Comprehensive Planning Districts (CPDs) identified in Chapter III of the adopted UAGP. This area accommodates most of the City's growth through 2040. For development to proceed in an orderly fashion, development in each CPD would be restricted until a Specific Plan(s) for that CPD has been adopted by the City. The Specific Plan would implement the UAGP policies identified in Chapter III of the UAGP and establish development policies specific to that CPD. This includes the policies requiring adoption of one or more specific plans to specify the intensity and location of development within the CPD. In conjunction with the Specific Plan process, additional environmental analyses and documentation would routinely occur.

UAGP LAND USE MAP

Modesto's UAGP Land Use Map is based on a Growth Strategy that establishes three geographic areas: (1) the Downtown Area; (2) the Baseline Developed Area, generally consisting of lands within the 2014 Modesto city limits, plus the unincorporated Beard Industrial Tract located south of SR132 / Yosemite Blvd., and minus the Village One and Tivoli specific plan areas; and, (3) the Planned Urbanizing Area, consisting of areas outside of the 2014 city limits (plus Village One and Tivoli) and within the planning area boundary.

The UAGP Land Use Map is Modesto's long-term, comprehensive guide for development of its planning area. Table 2.0-1 presents the existing adopted land uses within the UAGP. Figure 2.4 illustrates the existing General Plan Land Use Map.

TABLE 2.0-1: ACREAGE BY LAND USE DESIGNATION – ADOPTED LAND USE MAP

Land Use Designation	*City Limits*	*Planning Area (outside of City)*	*Total Acres*
Residential Land Uses			
R - Residential	16,718.96	1,983.51	18,702.47
VR - Village Residential	292.29	3,765.58	4,057.87
Mixed Use Land Uses			
MU - Mixed Use	1,521.52	0.01	1,521.52
D - Downtown	712.85	--	712.85
Commercial, Professional, and Industrial Land Uses			
C - Commercial	1,619.68	146.49	1,766.17
RC - Regional Commercial	238.37	655.95	894.32
BCR - Business-Commercial-Residential	204.82	736.31	941.13
I - Industrial	1,187.06	2,591.57	3,778.63
BP - Business Park	381.79	2,697.17	3,078.96
Public Land Uses			
OS - Open Space	1,349.37	1,531.93	2,881.30
Community Plan			
SCP - Salida Community Plan	1.67	4,331.36	4,333.03
Total	**24,228.37**	**18,439.89**	**42,668.26**

SOURCE: CITY OF MODESTO GIS, ADOPTED LAND USE MAP, 2024.

7 UAGP PROJECT OBJECTIVES

The State CEQA Guidelines require that the project description include a statement of the objectives sought by the project (CEQA Guidelines Section 15124.b). In addition to disclosing the project's intent, the objectives help the lead agency select a reasonable range of project alternatives to be evaluated in the EIR. The objectives may also aid the City in preparing findings or a statement of overriding considerations, if necessary (CEQA Guidelines Section 15124.b).

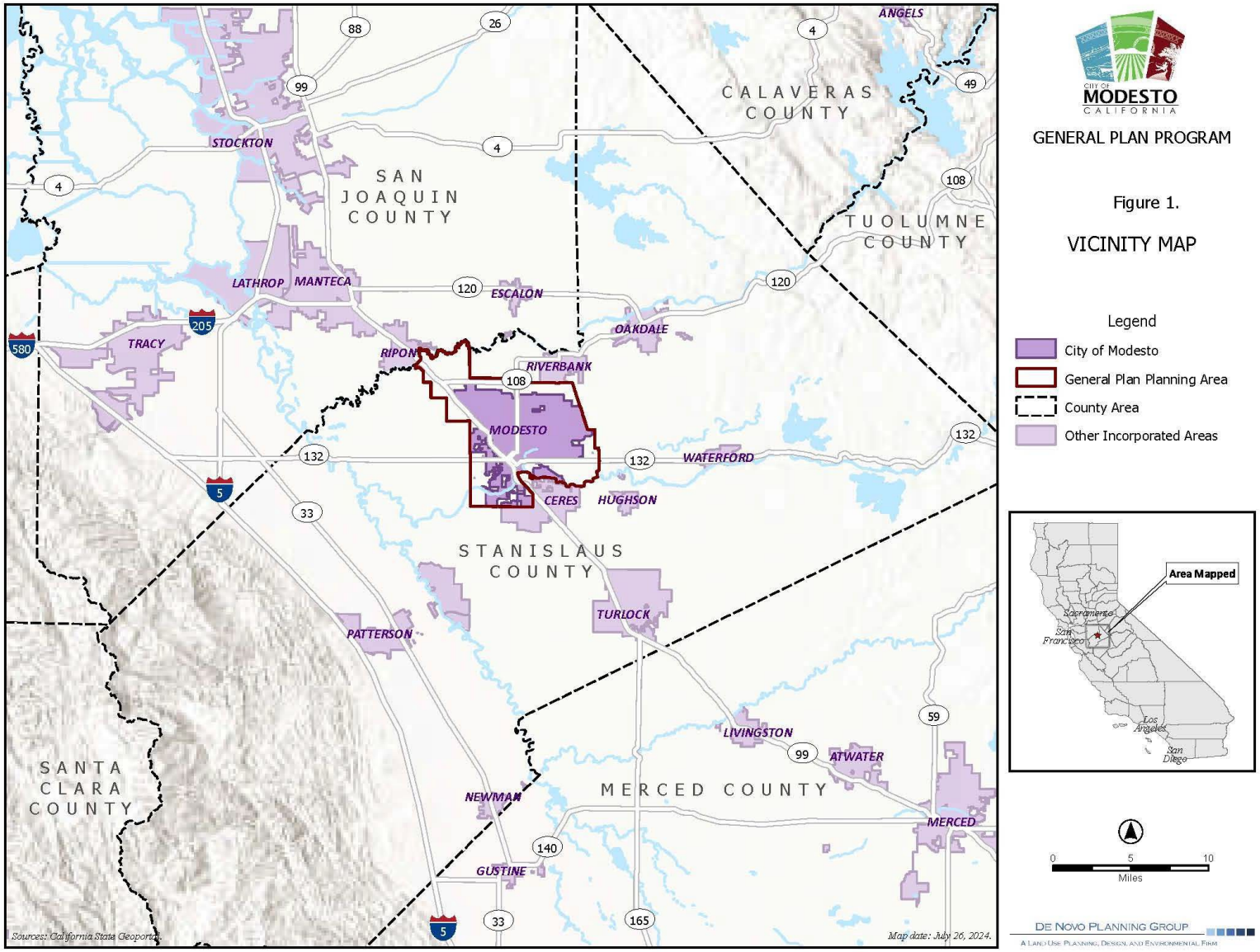
The overarching goals of the General Plan remains consistent with those described in the 2019 EIR, including: revise the land use element, including the land use diagram, to provide enhanced economic development opportunities as new development occurs; revise the circulation element to provide a mode-balanced and cost-effective transportation system; update policies to reflect applicable state laws and regulations; and, update the General Plan EIR to allow subsequent projects to benefit from streamlined review based on its environmental analysis. Project objectives presented are as follows:

- Amend the land use and zoning densities in accordance with the adopted Modesto Housing Element;
- Comply with new State and Federal laws;

- Provide improved transportation alternatives, including transit, bicycle & pedestrian facilities;
- Facilitate an improved mix of land uses to reduce vehicle miles traveled by locating residential land uses close to employment, retail and services;
- Promote infill development;
- Provide framework for intensified development in Modesto's downtown area;
- Align Modesto's land use and transportation goals and policies;
- Establish a realistic set of assumptions for infrastructure needs and funding;
- Facilitate complete, safe and walkable neighborhoods;
- Provide for a variety of transportation options;
- Promote equitable, affordable housing;
- Support existing neighborhoods / communities; and,
- Maintain the General Plan and Sphere-of-Influence boundaries (for purposes of defining the proposed project to be analyzed under CEQA).

8 ADOPTED GENERAL PLAN ELEMENTS

The adopted General Plan includes a comprehensive set of goals, policies, and actions (implementation measures), as well as a Land Use Map. The General Plan includes all the State-mandated elements, including Land Use (addresses Environmental Justice), Circulation, Resource Conservation (combines Open Space, Conservation, and Air Quality topics), and Safety (addresses Climate Adaptation and Noise) as well as optional elements, including Growth Management, Community Design, Economic Development, and Community Facilities and Services. As previously noted, the Housing Element was adopted in December 2023 and certified in April 2024. The General Plan analyzed under this new Program EIR includes the adopted General Plan, including the recently adopted Housing Element, and is intended to reflect the density changes adopted under Housing Element Program A-2 and A-4.



CITY OF MODESTO CALIFORNIA

GENERAL PLAN PROGRAM

Figure 1.

VICINITY MAP

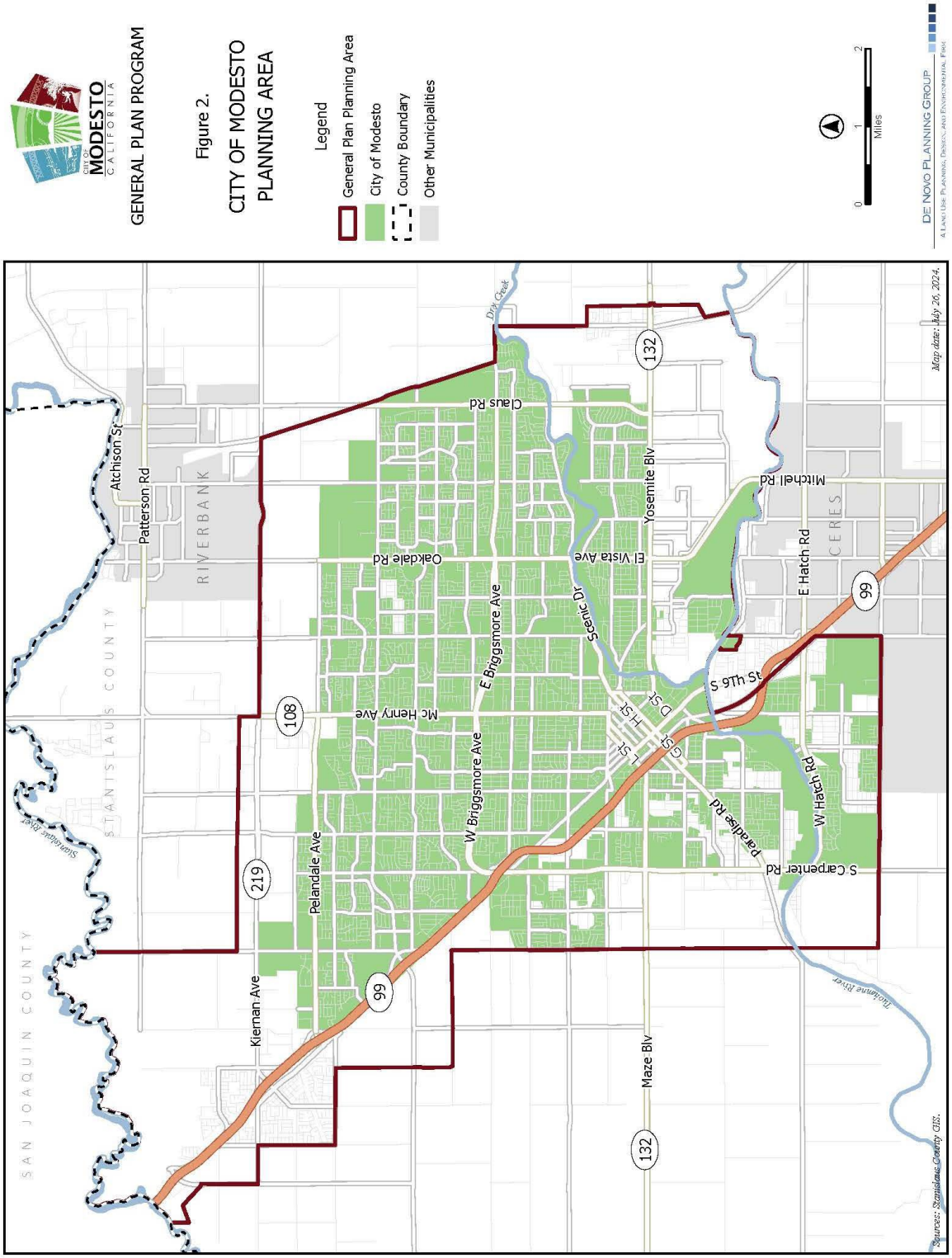
Legend

- City of Modesto
- General Plan Planning Area
- County Area
- Other Incorporated Areas

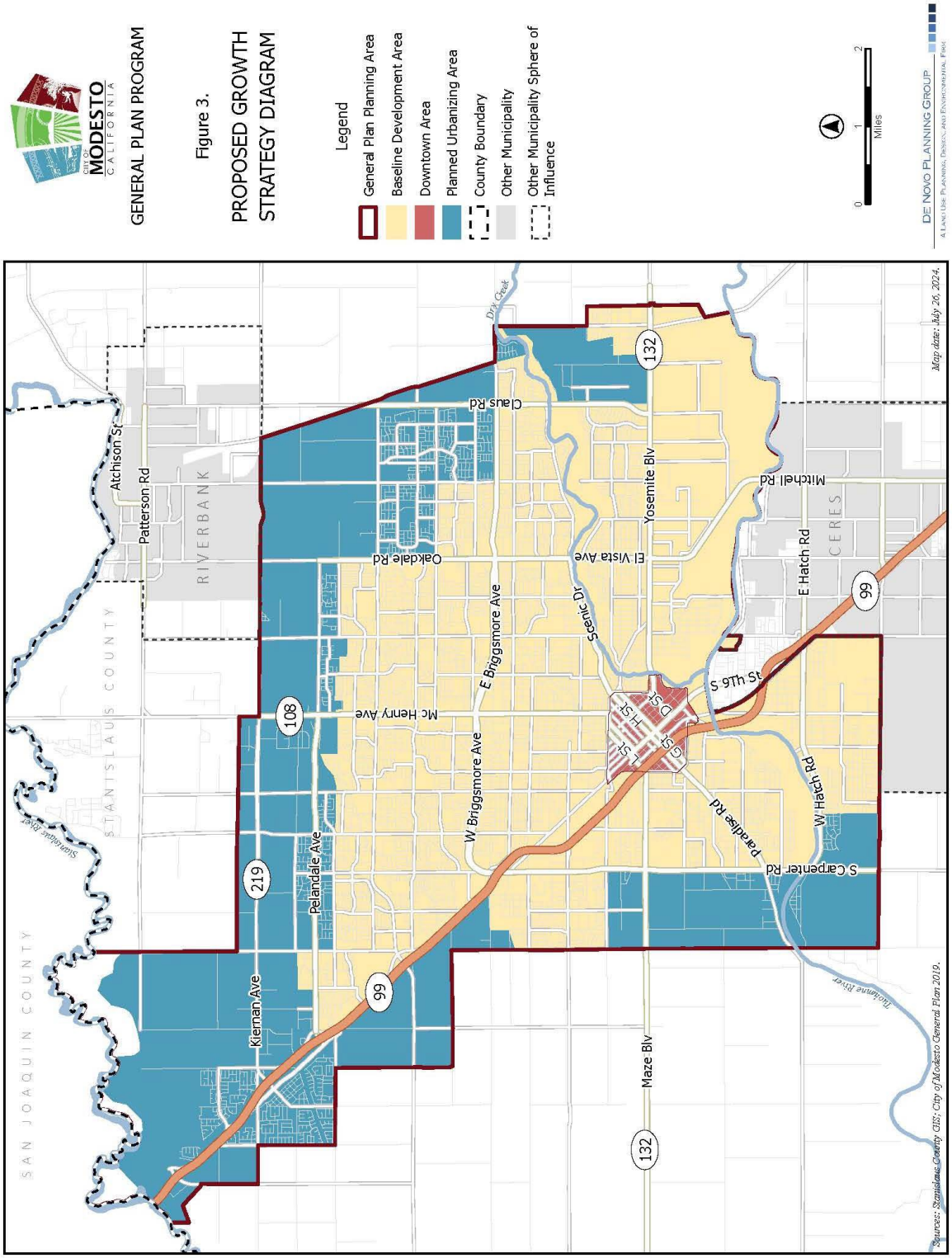
0 5 10
Miles

DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

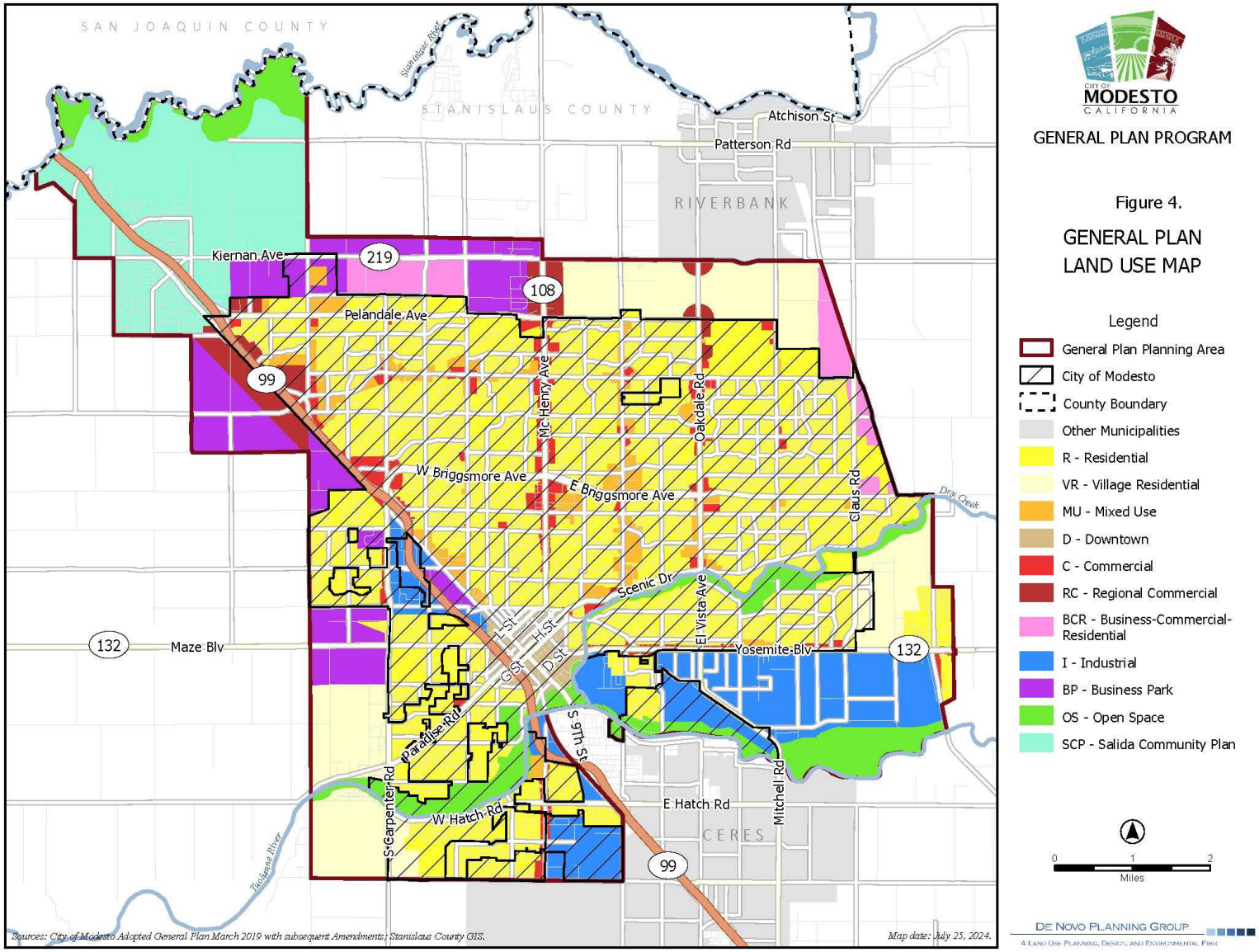
This page left intentionally blank.


GENERAL PLAN PROGRAM
Figure 2.
CITY OF MODESTO
PLANNING AREA
Legend
General Plan Planning Area
City of Modesto
County Boundary
Other Municipalities
Miles
DE NOVO PLANNING GROUP
Map date: July 26, 2024.
Sources: Stanislaus County GIS.
RIVERBANK
CERES
STANISLAUS COUNTY
SAN JOAQUIN COUNTY
Atchison St
Patterson Rd
Claus Rd
Oakdale Rd
Mc Henry Ave
Pelandale Ave
Kiernan Ave
W Briggsmore Ave
E Briggsmore Ave
Scenic Dr
El Vista Ave
Yosemite Blv
Mitchell Rd
E Hatch Rd
W Hatch Rd
Paradise Rd
S Carpenter Rd
Maze Blv
99
108
219
132

This page left intentionally blank.


CITY OF MODESTO CALIFORNIA
GENERAL PLAN PROGRAM
Figure 3.
PROPOSED GROWTH STRATEGY DIAGRAM
Legend
General Plan Planning Area
Baseline Development Area
Downtown Area
Planned Urbanizing Area
County Boundary
Other Municipality
Other Municipality Sphere of Influence
0
1
2
Miles
DE NOVO PLANNING GROUP
Map date: July 26, 2024.
Sources: Stanislaus County GIS; City of Modesto General Plan 2019.
SAN JOAQUIN COUNTY
STANISLAUS COUNTY
RIVERBANK
CERES
Claus Rd
Atchison St
Patterson Rd
Oakdale Rd
Mc Henry Ave
E Briggsmore Ave
W Briggsmore Ave
Scenic Dr
El Vista Ave
Yosemite Blv
Mitchell Rd
E Hatch Rd
W Hatch Rd
Paradise Rd
S Carpenter Rd
Pelandale Ave
Kiernan Ave
Maze Blv
D St
G St
H St
I St
99
108
219
132

This page left intentionally blank.


SAN JOAQUIN COUNTY
STANISLAUS COUNTY
Stanislaus River
Atchison St
Patterson Rd
RIVERBANK
Kiernan Ave
219
108
Pelandale Ave
99
Mc Henry Ave
Oakdale Rd
W Briggsmore Ave
E Briggsmore Ave
Claus Rd
Dry Creek
Scenic Dr
El Vista Ave
I St
H St
G St
D St
132
Maze Blv
Yosemite Blv
132
Paradise Rd
S 9th St
S Carpenter Rd
W Hatch Rd
E Hatch Rd
Mitchell Rd
CERES
99
Tuolumne River
Sources: City of Modesto Adopted General Plan March 2019 with subsequent Amendments; Stanislaus County GIS.
Map date: July 25, 2024.
CITY OF MODESTO CALIFORNIA
GENERAL PLAN PROGRAM
Figure 4.
GENERAL PLAN LAND USE MAP
Legend
General Plan Planning Area
City of Modesto
County Boundary
Other Municipalities
R - Residential
VR - Village Residential
MU - Mixed Use
D - Downtown
C - Commercial
RC - Regional Commercial
BCR - Business-Commercial-Residential
I - Industrial
BP - Business Park
OS - Open Space
SCP - Salida Community Plan
0
1
2
Miles
DE NOVO PLANNING GROUP
A LAND USE PLANNING, DESIGN, AND ENVIRONMENTAL FIRM

This page left intentionally blank.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

October 25, 2024

Michael Hren
City of Modesto
Planning Division
1010 10th Street
Modesto, CA 95354

Project: Notice of Preparation of an Environmental Impact Report for Amendments to the Modesto Urban Area General Plan and Zoning Ordinance

District CEQA Reference No: 20241125

Dear Mr. Hren:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) from the City of Modesto (City) for Amendments to the Modesto Urban Area General Plan and Zoning Ordinance (Project). Per the NOP, the Project consists of amendments to the Urban Area General Plan and Zoning Ordinance to ratify and conform the land use and zoning designations with the changes adopted in the City's General Plan's Housing Element, by implementing a rezone of parcels on McHenry, Sisk, Oakdale, and Yosemite to new Mixed-Use Pedestrian and Mixed-Use Highway zones, and modify Planned Development parcels related to density. The Project area includes the entire City of Modesto Limits, plus areas in the unincorporated areas proximately to the City limits.

The Project is a plan level project and, while project-specific data may not be available until specific approvals are being granted, the EIR should include a discussion of policies, which when implemented, will reduce or mitigate impacts on air quality at the individual project level.

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

1) Project Siting

The Modesto Urban Area General Plan and Zoning Ordinance is the blueprint for future growth and provides guidance for the community's development. Without appropriate mitigation and associated policy, future development projects within the Project area may contribute to negative impacts on air quality due to increased traffic and ongoing operational emissions. Appropriate project siting helps ensure there is

Samir Sheikh
Executive Director/Air Pollution Control Officer

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

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

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

www.valleyair.org www.healthyairliving.com

Printed on recycled paper.

adequate distance between differing land uses, which can prevent or reduce localized and cumulative air pollution impacts from business operations that are in close proximity to receptors (e.g., residences, schools, health care facilities, etc.). Any guidance and policies for the Project used to implement the Modesto Urban Area General Plan and Zoning Ordinance should include measures and concepts outlined in the following resources:

- CARB's Air Quality and Land Use Handbook: A Community Health Perspective. The document includes tables with recommended buffer distances associated with various types of common sources (e.g., distribution centers, chrome platers, gasoline dispensing facilities, etc.), and can be found at: https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources

- CARB's Freight Handbook Concept Paper: This document compiles best practices designed to address air pollution impacts, which may apply to the siting, design, construction, and operation of freight facilities to minimize health impacts on nearby communities, and can be found at: https://ww2.arb.ca.gov/sites/default/files/2020-03/2019.12.12%20-%20Concept%20Paper%20for%20the%20Freight%20Handbook_1.pdf

2) Project Related Emissions

The District recommends that the EIR stipulate that future development projects within the Modesto Urban Area General Plan and Zoning Ordinance identify and characterize project construction and operational air emissions. The District recommends the air emissions be compared to the District significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf. The District recommends that future projects be mitigated to the extent feasible, and that future projects with air emissions above the aforementioned thresholds be mitigated to below these thresholds.

As such, the EIR should include a discussion of policies, which when implemented, will require assessment and characterization of project-level emissions, and subsequently require mitigation of air quality impacts to the extent feasible at the individual project-specific level. Environmental reviews of potential impacts on air quality should incorporate the following items:

2a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, that future development projects that may be approved under implementation of the Project should utilize the cleanest available off-road construction equipment.

2b) Operational Emissions

For future development projects that may be approved under implementation of the Project, the District recommends that operational (ongoing) air emissions from mobile sources and stationary sources be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf.

Recommended Mitigation Measure: At a minimum, project related impacts on air quality should be reduced to levels below the District's significance thresholds through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

2c) Recommended Model for Quantifying Air Emissions

Future development project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

3) Health Risk Screening/Assessment

For future development projects, the City should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for future development projects that may be approved under implementation of the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction,

as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology. Please contact the District for assistance with performing a Prioritization analysis.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the health impacts would exceed the District's established risk thresholds, which can be found here: https://ww2.valleyair.org/permitting/ceqa/.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors to prevent the creation of a significant health risk in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources.

4) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for any future development projects that may be approved under implementation of the Project with emissions that exceed 100 pounds per day of any pollutant.

An AAQA uses air dispersion modeling to determine if emission increase from a project will cause or contribute to a violation of State or National Ambien Air Quality Standards. An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: https://ww2.valleyair.org/permitting/ceqa/.

5) Voluntary Emission Reduction Agreement

Future development projects within the Project area may have a significant impact on air quality. The District recommends the EIR include a feasibility discussion on implementing a Voluntary Emission Reduction Agreement (VERA) as a mitigation measure.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural

irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of agricultural equipment with the latest generation technologies.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

6) Allowed Uses Not Requiring Project-Specific Discretionary Approval

In the event that the City determines that a project be approved as an allowed use not requiring a project-specific discretionary approval, the District recommends the EIR include language requiring such projects to prepare a technical assessment, in consultation with the District, to determine if additional analysis and/or mitigation is required.

7) Clean Lawn and Garden Equipment in the Community

Since the Project consists of residential development, gas-powered residential lawn and garden equipment have the potential to result in an increase of NOx and PM2.5 emissions. Utilizing electric lawn care equipment can provide residents with immediate economic, environmental, and health benefits. The District recommends the Project proponent consider the District's Clean Green Yard Machines (CGYM) program which provides incentive funding for replacement of existing gas powered lawn and garden equipment. More information on the District CGYM program and funding can be found at: https://ww2.valleyair.org/grants/clean-green-yard-machines-residential/.

8) On-Site Solar Deployment

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the City consider incorporating solar power systems as an emission reduction strategy for future development projects that may be approved under implementation of the Project.

9) Electric Infrastructure

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

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

10) District Rules and Regulations

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

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (209) 557-6446.

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

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Accordingly, future development projects within the Modesto Urban Area General Plan and Zoning Ordinance may be subject to District Rule 9510 if upon full buildout, the project would equal or exceed any of the following applicability thresholds, depending on the type of development and public agency approval mechanism:

Table 1: ISR Applicability Thresholds

Development Type	Discretionary Approval Threshold	Ministerial Approval / Allowed Use / By Right Thresholds
Residential	50 dwelling units	250 dwelling units
Commercial	2,000 square feet	10,000 square feet
Light Industrial	25,000 square feet	125,000 square feet
Heavy Industrial	100,000 square feet	500,000 square feet
Medical Office	20,000 square feet	100,000 square feet
General Office	39,000 square feet	195,000 square feet
Educational Office	9,000 square feet	45,000 square feet
Government	10,00 square feet	50,000 square feet
Recreational	20,000 square feet	100,000 square feet
Other	9,000 square feet	45,000 square feet

District Rule 9510 also applies to any transportation or transit development projects where construction exhaust emissions equal or exceed two tons of NOx or two tons of PM.

In the case the individual development project is subject to District Rule 9510, per Section 5.0 of the rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency so that proper mitigation and clean air design under ISR can be incorporated into the public agency's analysis.

Information about how to comply with District Rule 9510 can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview

The AIA application form can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/forms-and-applications/

District staff is available to provide assistance with determining if future development projects will be subject to Rule 9510, and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

10b) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)

Future development projects may be subject to District Rule 4002. This rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Information on how to comply with District Rule 4002 can be found online at: https://ww2.valleyair.org/compliance/demolition-renovation/

10c) District Rule 4601 (Architectural Coatings)

Future development projects may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: https://ww2.valleyair.org/media/tkgjeusd/rule-4601.pdf

10d) District Regulation VIII (Fugitive PM10 Prohibitions)

For future development projects, a project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at: https://ww2.valleyair.org/media/fm3jrbsq/dcp-form.docx

Information about District Regulation VIII can be found online at: https://ww2.valleyair.org/dustcontrol

10e) District Rule 4901 - Wood Burning Fireplaces and Heaters

The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices. This rule establishes limitations on the installation of new wood burning fireplaces and wood burning heaters. Specifically, at elevations below 3,000 feet in areas with natural gas service, no person shall install a wood burning fireplace, low mass fireplace, masonry heater, or wood burning heater.

Information about District Rule 4901 can be found online at: https://ww2.valleyair.org/compliance/residential-wood-smoke-reduction-program/

10f) Other District Rules and Regulations

Future development projects may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

11) Future Projects / Land Use Agency Referral Documents

Future development projects may require an environmental review and air emissions mitigation. A project's referral documents and environmental review documents provided to the District for review should include a project summary, the land use designation, project size, air emissions quantifications and impacts, and proximity to sensitive receptors and existing emission sources, and air emissions mitigation measures. For reference and guidance, more information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf

If you have any questions or require further information, please contact Dylan Casares by e-mail at Dylan.Casares@valleyair.org or by phone at (559) 230-6574.

Sincerely,

Tom Jordan
Director of Policy and Government Affairs

For: Mark Montelongo
Program Manager

William D. Ross
David Schwarz
Kypros Hostetter
Christina Bellardo

Law Offices of
William D. Ross
400 Lambert Avenue
Palo Alto, California 94306
Telephone: (650) 843-8080
Facsimile: (650) 843-8093

Los Angeles Office:
11420 Santa Monica Blvd
#25532
Los Angeles, CA 90025

File No: 178/5

October 28, 2024

VIA EMAIL
Michael Hren, AICP, Principal Planner
City of Modesto – Planning Division
1010 10th Street
Modesto, CA 94354
209-577-5273
mhren@modestogov.com

Re: Comments by Salida Fire Protection District – City of Modesto - NOP of EIR for Amendments to the Urban Area General Plan and Zoning Ordinance

Dear Mr. Hren,

This office serves as District Counsel to the Salida Fire Protection District ("Salida FPD"). Salida FPD has received the Notice of Preparation for an Environmental Impact Report for the Amendments to the Urban Area General Plan and Zoning Ordinance for the City of Modesto (the "Project"), pursuant to the California Environmental Quality Act ("CEQA," Public Resources Code Section 21000 *et seq*).

Salida FPD's service area is established by the Stanislaus County Local Agency Formation Commission ("LAFCO") pursuant to the Cortese-Knox-Hertzberg Local Reorganization Act of 2000 (Government Code Section 56000 *et seq.*). Consistent with this authority, Salida FPD has exclusive jurisdiction for the provision of fire and emergency medical response services within its LAFCO-designated territory.

As new development is constructed (*e.g.,* single-family homes, multi-family homes, and commercial/industrial complexes) those new structures increase the overall burden on fire and emergency response services, such as staffing, facilities, equipment, and vehicles needed for an adequately equipped fire department.

Salida FPD is organized under the Fire Protection District Law of 1987 (Health and Safety Code section 13800 *et seq*.). Due to the limited proportion of property taxes that are allocated to fire protection districts, property taxes alone are often insufficient to fund essential fire and emergency response services. Accordingly, the Fire Protection District Law of 1987 authorizes fire protection districts to implement additional funding mechanisms, including but not limited to establishing a Community Facilities District pursuant to the Mello-Roos Community Facilities

District Act of 1982 (the "Mello-Roos Act," Gov. Code § 53311 *et seq*; see, Health and Safety Code Sections 13910-13918).

To ensure that that new development funds its proportionate share for fire and emergency response services (as opposed to being subsidized by pre-existing property owners), in 2010, Salida conducted a nexus fee study for the establishment of a Community Facilities District ("CFD") to supplement and enhance Salida's emergency response operations, consistent with the Mello-Roos Act and the Fire Protection District Law.

Consistent with applicable law, since 2010, new development involving the issuance of building permits is conditioned upon joining the CFD and paying the associated taxes. These taxes help offset the costs that the new development imposes on fire protection resources, and helps maintain and enhance the level of emergency response services provided by the District as the community develops. Developments occurring prior to 2010 are not included in the CFD – rather, property only annexes into the CFD when new construction occurs.

California courts acknowledge that fire protection is one of the most essential and basic functions of local government. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, 1195-1196; *Verreos v. City and County of San Francisco* (1976) 63 Cal.App.3d 86, 107).

To ensure that the Project complies with CEQA, as well as the City General Plan, the environmental and planning analysis must consider the impacts that the Project will have on fire and emergency response services, as well as appropriate funding mechanisms for those services.

Those funding sources could include, among other things, conditions of approval requiring annexation of developing property into the CFD, development impact fees under the Mitigation Fee Act, or alternative funding mechanisms that account for the impact on new development on Salida FPD.

Salida FPD requests notice of all future meetings, hearings, and any staff reports pertaining to the Project. Notice can be provided by contacting William D. Ross at wross@lawross.com and David P. Schwarz at dschwarz@lawross.com.

If you have any questions regarding Salida FPD's comments, please contact our office by emailing

Very truly yours,

William D. Ross
District Counsel

28 October 2024

Michael Hren
City of Modesto
1010 Tenth Street
Modesto, CA 95353
mhren@modestogov.com

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, AMENDMENTS TO THE MODESTO URBAN AREA GENERAL PLAN AND ZONING ORDINANCE, SCH#2024091127, STANISLAUS COUNTY

Pursuant to the State Clearinghouse's 27 September 2024 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Amendments to the Modesto Urban Area General Plan and Zoning Ordinance, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as

required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website: http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention

Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

I

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

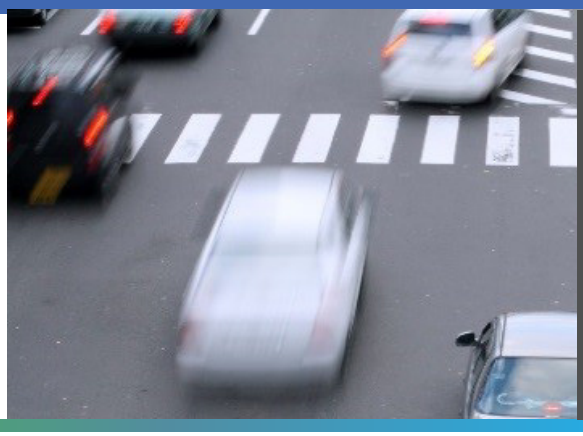
Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

APPENDIX B

Transportation Study

Modesto General Plan Amendment
Vehicle Miles Traveled (VMT) Traffic Study
DRAFT Version 1.0



12619 | Prepared by Iteris, Inc.

DOCUMENT VERSION CONTROL

DOCUMENT NAME	SUBMITTAL DATE	VERSION NO.
Draft Modesto General Plan Amendment VMT Study	12/06/2024	1.0

TABLE OF CONTENTS

1 Introduction 4
1.1 Project Description 4
2 VMT Analysis Methodology 7
3 VMT Results 10
3.1 VMT Summary 10
4 Conclusions 12

TABLES

Table 1-1 – Summary of Existing and Proposed Density and Unit Capacity (Within City) 5
Table 1-2 – Summary of Existing and Proposed Density and Unit Capacity (Outside of City/Planning Area) 5
Table 2-1 – Population Growth 8
Table 3-1 – VMT Summary 10
Table 3-2 – City of Modesto + Planning Area Daily VMT and SED 11

FIGURES

Figure 1-1: Location of Future Development 6
Figure 2-1 StanCOG Model 2046 Highway Network 8
Figure 2-2: Future Population Growth and Areas of Existing Employment 9

1 INTRODUCTION

In 2019, the City of Modesto formally adopted the latest version of its Urban Area General Plan (UAGP) after a significant update process which began in 2011, funded by a federal grant as part of the Smart Valley Places initiative. The UAGP outlines Modesto's vision for the future, identifying a Planning Area that extends beyond the City's boundaries to include approximately 40,600 acres. This area is organized into three main zones to facilitate strategic growth: the Downtown Area, the Baseline Developed Area, and the Planned Urbanizing Area.

Since the 2019 adoption of the UAGP, the City has made several amendments to the General Plan to stay responsive to both internal and external changes, including shifting local priorities, new development opportunities, and modifications to state regulations. One of the most significant recent updates is the 2023 – 2031 Housing Element, which responds to the State of California Regional Housing Needs Allocation (RHNA) requirements. This Housing Element is a strategic addition to the General Plan that outlines the City's housing goals and includes zoning amendments designed to facilitate increased residential and mixed-use development in targeted areas.

The City of Modesto also prepared an Environmental Impact Report (EIR) for these amendments, in compliance with the California Environmental Quality Act (CEQA), to assess the potential environmental impacts of the zoning and density updates outlined in the Housing Element. This Vehicle Miles Traveled (VMT) study evaluates how the increased residential densities may influence travel distances and patterns with the City and the Sphere of Influence (SOI) the two combined areas representing the Planning Area. The study provides insights into whether these zoning changes are likely to lower VMT per capita, thus aligning with the State's sustainability goals under Senate Bill 743, which requires projects to assess and mitigate transportation impacts based on VMT.

1.1 PROJECT DESCRIPTION

A critical component of the 2023 – 2031 Housing Element update is its focus on vacant and underutilized parcels within the City and the Planning Area. The rezoning and density adjustments detailed in the Housing Element allow for modifications within specific zones – the Mixed-Used Pedestrian (MU-P), Mixed-Use Highway (MU-H), Planned Development (P-D), R-1, R-2, and R-3 zones. These adjustments are designed to increase housing capacity within vacant and underutilized parcels. **Table 1-1** shows the current and proposed densities, along with the anticipated housing yield for vacant and underutilized parcels in these zones within the City limits. Under the new density regulations, the City's housing capacity in the remaining vacant and underutilized parcels within City limits would increase from 11,085 units to 19,615 units, adding a total of 8,530 units.

While specific zoning designations do not currently apply, for areas within the Planning Area but outside the current city limits, the Residential and Village Residential lands are expected to be developed as R-1, R-2, or R-3 zones if they are annexed into the City. **Table 1-2** shows the anticipated capacity in these external areas would increase from 28,321 units to 41,628 units, representing a gain of 13,307 units. In total, 21,837 housing units will be added within the Planning Area in the With Project scenario.

Figure 1-1 shows the locations of the zones with proposed densities.

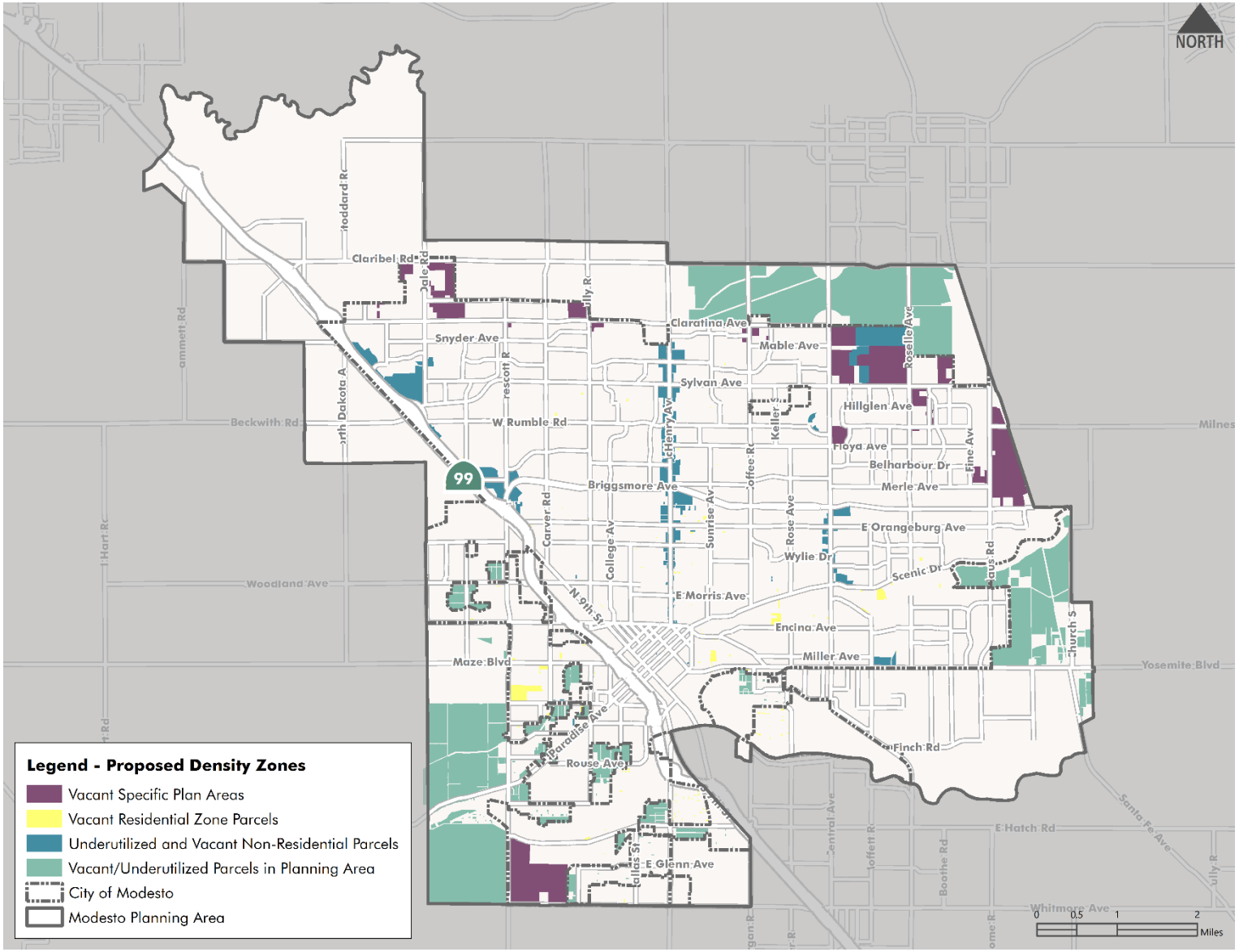
Table 1-1 – Summary of Existing and Proposed Density and Unit Capacity (Within City)

		Existing Densities				Proposed Densities				# of Units to be Added
Zoning	*Total Acreage*	*Existing Max Density*	*Realistic Capacity %*	*Existing Realistic Density*	***Units Realistic***	*Proposed Max Density*	*Realistic Capacity %*	*Proposed Realistic Density*	***Units Realistic***	
Underutilized-Non-Residential										
MU-H	200.63	--	--	--	13	45.0	17%	7.7	1,535	1,522
MU-P	120.89	--	--	--	128	45.0	17%	7.7	925	797
P-D	313.18	--	--	--	1,543	45.0	17%	7.7	2,396	853
Subtotal	***634.70***				***1,684***				***4,855***	***3,171***
Vacant- Non-Residential										
MU-H	32.66	--	--	--	115	45.0	70%	31.5	1,029	914
MU-P	2.46	--	--	--	25	45.0	70%	31.5	78	53
P-D	12.11	--	--	--	246	45.0	70%	31.5	381	135
Subtotal	***47.23***				***386***				***1,488***	***1,102***
Specific Plan										
SP (R-1)	1042.51	7.50	80%	6.00	6,255	10.9	80%	8.7	9,091	2,836
SP (R-2)	94.77	14.50	70%	10.15	962	22	70%	15.4	1,459	498
SP (R-3)	47.39	29.00	70%	20.30	962	45	70%	31.5	1,493	531
Subtotal	***1,184.67***				***8,179***				***12,043***	***3,864***
Residential										
R-1	112.50	7.50	80%	6.00	675	10.9	80%	8.7	981	306
R-2	4.26	14.50	70%	10.15	43	22	70%	15.4	66	22
R-3	5.78	29.00	70%	20.30	117	45	70%	31.5	182	65
Subtotal	***122.54***				***836***				***1,229***	***393***
Total	**1,989.15**				**11,085**				**19,615**	**8,530**

Table 1-2 – Summary of Existing and Proposed Density and Unit Capacity (Outside of City within Planning Area)

		Existing Densities				Proposed Densities				# of Units to be Added
Zoning	*Total Acreage*	*Existing Max Density*	*Realistic Capacity %*	*Existing Realistic Density*	***Units Realistic***	*Proposed Max Density*	*Realistic Capacity %*	*Proposed Realistic Density*	***Units Realistic***	
Planning Area										
R-1	3,609.80	7.5	80%	6.00	**21,659**	10.9	80%	8.7	**31,405**	9,746
R-2	328.16	14.5	70%	10.15	**3,331**	22	70%	15.4	**5,054**	1,723
R-3	164.08	29	70%	20.30	**3,331**	45	70%	31.5	**5,169**	1,838
Totals	**4,102.05**				**28,321**				**41,628**	**13,307**

Figure 1-1: Location of Future Development



2 VMT ANALYSIS METHODOLOGY

CEQA analysis for determining potential significant transportation impacts from vehicle traffic transitioned from an automobile delay or capacity measure to a VMT metric in July 2020, as required by Senate Bill (SB) 743. SB 743 directed agencies to develop new guidelines that provide a transportation performance metric to promote the reduction of greenhouse gas emissions, the development of multimodal networks, and diversity of land uses. **VMT is an area-wide performance measure** which helps compare the overall performance of a project or project alternatives and is also used as a metric to ultimately assess the transportation environmental impacts of a project.

VMT analysis shifts the focus towards impacts caused by the distance traveled by vehicles rather than the localized congestion created by vehicles (i.e., intersection-level delay). In essence, utilizing VMT means measuring the impact that motorists have on a network, as opposed to LOS which assesses the impact of a project on motorists. In April 2018, the Office of Planning and Research (OPR) issued a Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide CEQA practitioners with assistance and recommendations in applying the new SB 743 guidance.

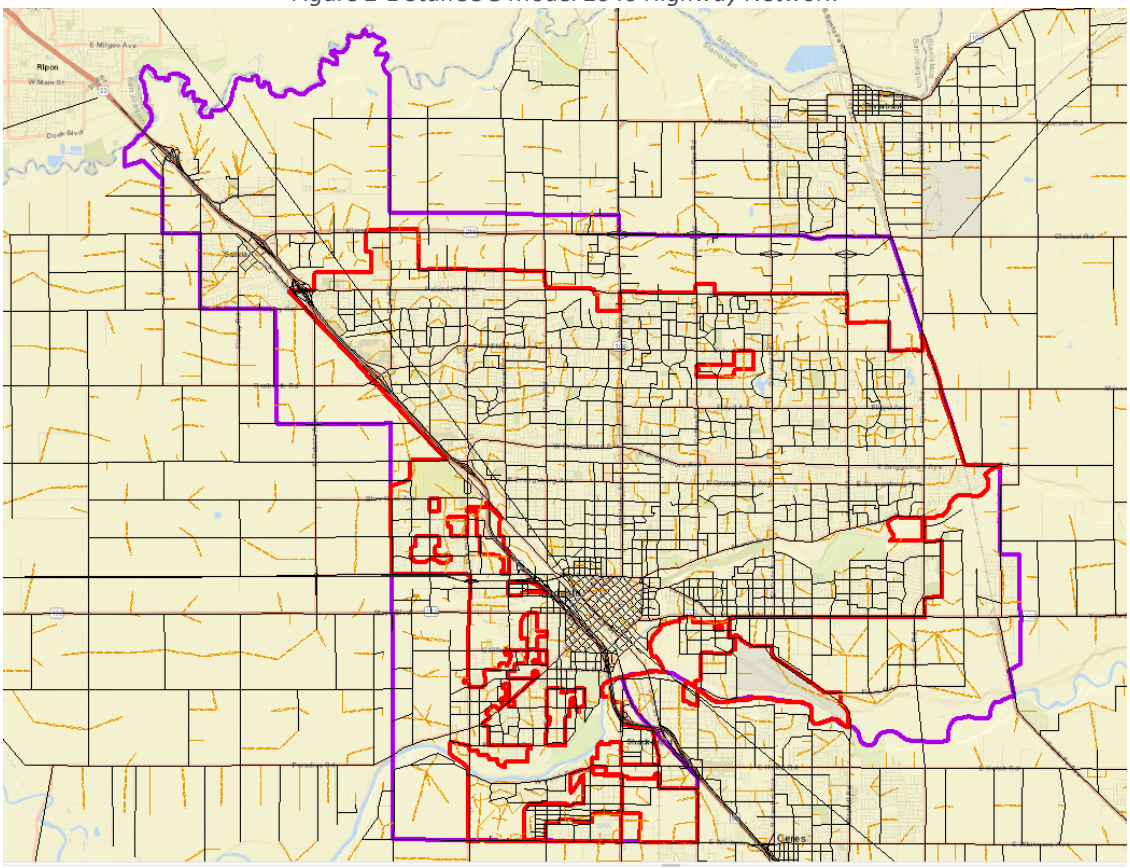
The technical Advisory advocates for a relative metric of VMT rather than an absolute measure which indicates efficiency of new development in terms of generating VMT. It is acknowledged new development will likely increase total VMT but the goal is to add new development in areas that would reduce the average trip length. Hence the preferred VMT metric is VMT per capita or VMT per service population (population plus employment). These metrics are then compared to a predetermined threshold to determine if the new development meets the VMT goals of the local jurisdiction.

As of 2024 neither the City of Modesto nor Stanislaus County have adopted significance thresholds for VMT and individual projects are treated on a case by case basis. VMT for a new development project is typically compared to Existing VMT metrics (VMT per capita or VMT per service population). However, this approach is not applicable to Specific Plans of General Plan updates where land use changes occur throughout a City. Typically, in these cases, local jurisdiction have adopted a Plan to Plan VMT comparison with the objective of reducing VMT per capita or VMT per service population in the new plan compared to the previous plan. Examples of Cities using this approach include the City of Corona and the City of Irvine.

To calculate the VMT associated with the future new development, the 2022 Stanislaus Council of Governments (StanCOG) Regional Transportation Plan (RTP) travel demand model was utilized as agreed with the City of Modesto staff. This version of the StanCOG model uses the most up to date land use assumptions available and incorporates the additional model highway network and Traffic Analysis Zone (TAZ) detail added during the development of the City of Modesto's traffic model in 2015. The 2022 StanCOG model has a Base year of 2019 and a forecast year of 2046. For reference the older City of Modesto Traffic Model has a base year of 2014 and a forecast year of 2040. **Figure 2-1** shows the 2046 model highway network in the Modesto area. The dashed orange lines represent "Centroid Connectors" which are notional connectors the model uses to load traffic from the various land uses onto the highway network, essentially representing the local street network.

The new residential land uses were added into the 2046 horizon year scenario model input files. Where geographic locations of new development were known in the case of the residential units (yellow), the proposed additional new units were distributed among the relevant model TAZs. For the other land uses categories where the distribution of the number of units was not known the TAZs containing each land use type were identified and the additional units allocated equally to each TAZ.

Figure 2-1 StanCOG Model 2046 Highway Network



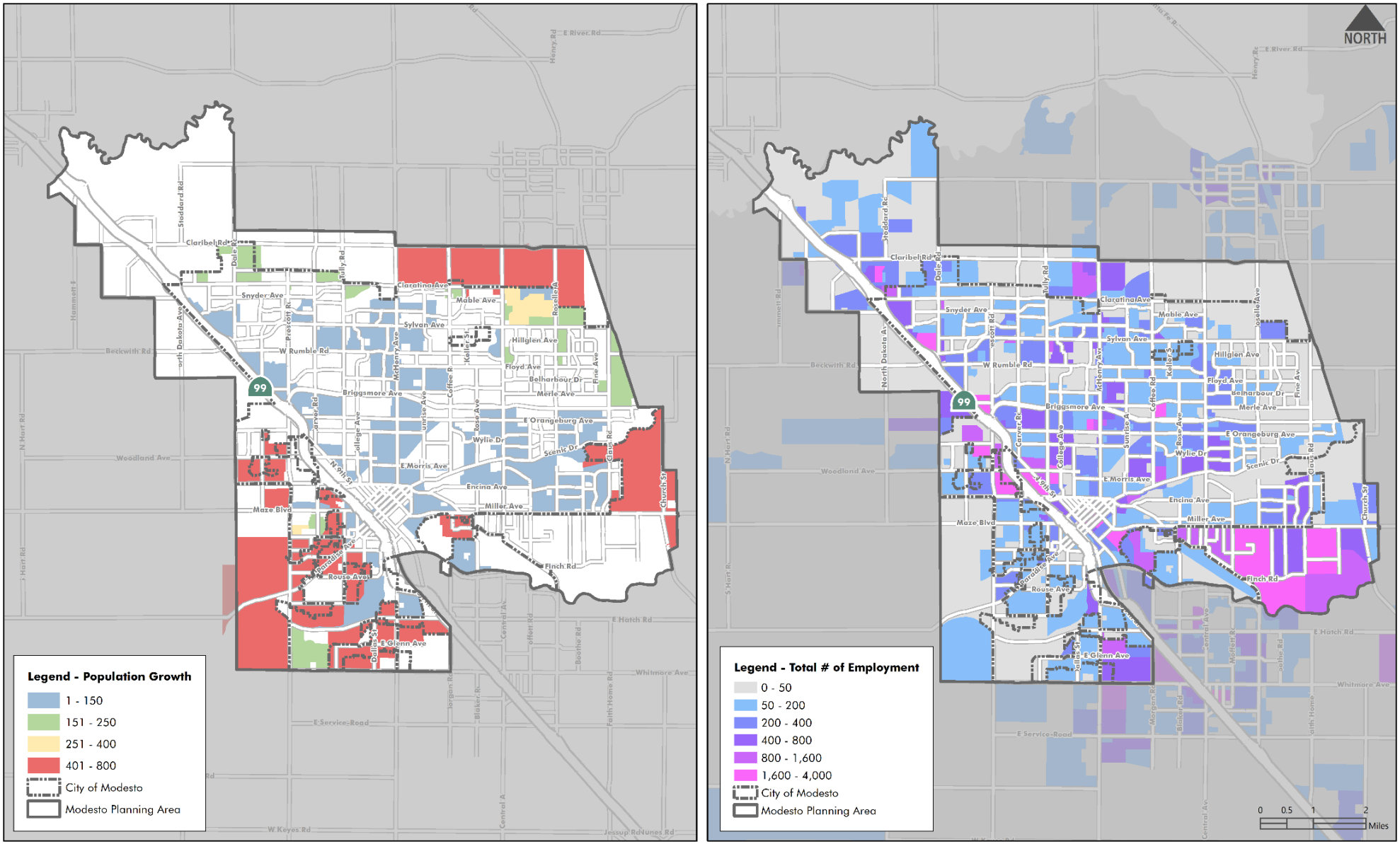
The socioeconomic data (population stratified by age, income and other population statistics) associated with each land use category was also generated to create all input files necessary to run the model. The additional population was calculated by calculating the proportion of the original population to the number of households and applying that number to the new residential units for each TAZ. **Table 2-1** shows the total number of new units and population added to the model. The increase in population of 63,692 represents an increase in 20% of the assumed 2046 population in the Planning Area in the StanCOG model.

Table 2-1 – Population Growth

Zoning	# of Units to be Added	Total Population Growth
Underutilized and Vacant-Non-Residential	4,273	11,864
Specific Plan	3,864	11,260
Residential	393	1,214
Planning Area (Outside of City)	13,307	39,354
Total	**21,837**	**63,692**

Adding new residential units to the model in isolation will create a slightly unrepresentative scenario: the additional population will also need jobs and require new schools and potentially colleges to support the increased population. Therefore, a sensitivity test was also run whereby employment was increased by 20% based on the proportion of existing jobs. This sensitivity test may overstate the VMT slightly since we might expect new employment to be somewhat more focused closer to the new housing units than the current distribution of jobs, but it provides a reasonableness check on the effects of purely addition the residential units to the model. **Figure 2-2** shows the areas of proposed population growth and the total employment in the study area.

Figure 2-2: Future Population Growth and Areas of Existing Employment



3 VMT RESULTS

3.1 VMT SUMMARY

Table 3-1 summarizes the VMT per service population and per capita results calculated from the StanCOG model for the 2019 base year, 2046 No Project, 2046 With Project, and 2046 With Project plus Employment Growth. The table shows the VMT per capita and the VMT per service population with Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within the City and the Planning Area.

In the With Project scenario the VMT per capita reduces by 10 percent compared to the No Project while the VMT per services population decreases by 5 percent. In the sensitivity test with additional employment both the VMT per capita and VMT per service population reduced by 4 percent compared to the No Project. This indicates then the General Plan Amendment associated with the updated Housing element is an improvement over the current General Plan in terms of VMT efficiency.

Table 3-1 – VMT Summary

Scenario	City only		Total Planning Area	
	VMT/Capita	VMT/Service Population	VMT/Capita	VMT/Service Population
2019 Baseline	14.1	10.2	14.6	10.3
2046 No Project	14.1	10.0	14.6	10.1
2046 With Project	13.0	9.7	13.1	9.6
2046 With Project plus Employment Growth	13.9	9.8	14.0	9.7
Change in VMT				
2046 With Project vs. 2019	-1.1	-0.6	-1.5	-0.7
2046 With Project vs. 2046 No Project	-1.0	-0.4	-1.5	-0.5
2046 With Project plus Employment Growth vs. 2019	-0.2	-0.4	-0.6	-0.6
2046 With Project plus Employment Growth vs. 2046 No Project	-0.1	-0.2	-0.6	-0.4
% Change in VMT				
2046 With Project vs. 2019	-8%	-5%	-10%	-7%
2046 With Project vs. 2046 No Project	-7%	-4%	-10%	-5%
2046 With Project plus Employment Growth vs. 2019	-1%	-4%	-4%	-6%
2046 With Project plus Employment Growth vs. 2046 No Project	-1%	-2%	-4%	-4%

Table 3-2 shows the daily VMT summary for each scenario with the corresponding socioeconomic data. While adding new residential units and employment increases total VMT the relative metric of VMT per Service population decreases with population and employment growth when compared with 2019 Baseline and 2045 No project VMT.

Table 3-2 – City of Modesto + Planning Area Daily VMT and SED

Performance Measure	2019	2046 No Project	2046 With Project	2046 With Project plus Employment Growth
Households	67,211	110,488	132,325	132,325
Population	265,178	318,592	382,284	382,284
Employment	110,812	140,304	140,304	167,861
Daily VMT	3,876,179	4,644,830	5,008,905	5,356,318
Daily VMT per Household	57.7	42.0	37.9	40.5
Daily VMT per Service Population	10.3	10.1	9.6	9.7

4 CONCLUSIONS

- The City of Modesto General Plan Housing Element focuses on vacant and underutilized parcels within the City and the Planning Area to increase housing capacity.
- The Housing Element will add 21,837 housing units within the Planning Area (City and the Sphere of Influence). The addition of housing units leads to population growth of 63,692 or a 20 percent increase.
- The VMT results indicate the VMT per capita and The VMT per service population With Project and With Project plus Employment Growth are expected to decrease compared to 2019 and 2046 No Project within both the City and the full Planning Area. This represents an improvement in VMT efficiency compared to the current General Plan

iteris®

1700 Carnegie Avenue, Suite 100
Santa Ana, CA 92705

iteris.com

© 2024 Iteris, Inc. All rights reserved.

APPENDIX C

Noise Study

Appendix C: Traffic Noise Calculation Inputs and Results

Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241203
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	7th Street	Paradise Rd to Crows Landing Rd	14,467	88	0	12	1.0%	1.0%	25	350	0	77	36	17	50.1
2	9th Street	Carpenter Rd to Woodland Ave	16,453	88	0	12	1.0%	1.0%	40	50	0	156	72	34	67.4
3	9th Street	D St to River Rd	27,719	88	0	12	1.0%	1.0%	30	50	0	151	70	33	67.2
4	9th Street	L St to D St	12,390	88	0	12	1.0%	1.0%	30	100	-5	88	41	19	54.2
5	9th Street	Needham St to L St	24,068	85	0	15	1.0%	1.0%	30	50	0	149	69	32	67.1
6	9th Street	South of River Rd	17,785	88	0	12	1.0%	1.0%	25	80	0	88	41	19	60.6
7	9th Street	Woodland Ave to Needham St	27,552	82	0	18	1.0%	1.0%	40	50	0	257	119	55	70.7
8	Briggsmore Avenue	Carver Rd to Tully Rd	57,869	80	0	20	1.0%	1.0%	45	55	-5	534	248	115	69.8
9	Briggsmore Avenue	Coffee Rd to Oakdale Rd	61,783	80	0	20	1.0%	1.0%	45	115	-5	558	259	120	65.3
10	Briggsmore Avenue	McHenry Ave to Coffee Rd	56,752	80	0	20	1.0%	1.0%	45	115	-5	527	245	114	64.9
11	Briggsmore Avenue	Oakdale Rd to Roselle Ave	38,221	80	0	20	1.0%	1.0%	45	75	-5	405	188	87	66.0
12	Briggsmore Avenue	Prescott Rd to Carver Rd	59,131	80	0	20	1.0%	1.0%	45	60	-5	542	252	117	69.3
13	Briggsmore Avenue	Roselle Rd to Claus Rd	22,577	88	0	12	1.0%	1.0%	45	75	-5	234	109	50	62.4
14	Briggsmore Avenue	Sisk Rd to Prescott Rd	73,104	75	0	25	1.0%	1.0%	35	200	0	458	213	99	65.4
15	Briggsmore Avenue	Tully Rd to McHenry Ave	61,232	80	0	20	1.0%	1.0%	45	150	-5	555	257	119	63.5
16	Carpenter Road	SR 99 to Kansas Ave	44,429	80	0	20	1.0%	1.0%	40	130	-5	369	171	79	61.8
17	Carpenter Road	Kansas Ave to Maze Blvd	20,484	85	0	15	1.0%	1.0%	40	75	-5	196	91	42	61.3
18	Carpenter Road	Maze Blvd to Paradise Rd	15,245	88	0	12	1.0%	1.0%	40	70	-5	148	69	32	59.9
19	Carpenter Road	South of Paradise Rd	20,460	85	0	15	1.0%	1.0%	40	140	-5	196	91	42	57.2
20	Carver Road	Briggsmore Ave to Orangeburg Ave	6,105	88	0	12	1.0%	1.0%	30	150	-5	55	26	12	48.5
21	Carver Road	South of Orangeburg Ave	6,121	88	0	12	1.0%	1.0%	30	115	-5	55	26	12	50.2
22	Claratina Avenue	Tully Rd to McHenry Ave	38,327	80	0	20	1.0%	1.0%	50	450	0	485	225	104	60.5
23	Claratina Avenue	McHenry Ave to Coffee Rd	36,719	80	0	20	1.0%	1.0%	45	100	-5	394	183	85	63.9
24	Claratina Avenue	Coffee Rd to Oakdale Rd	30,793	80	0	20	1.0%	1.0%	55	55	-5	494	229	106	69.3

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241203
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
25	Claratina Avenue	Oakdale Rd to Roselle Ave (NewAlignment)	1,635	95	0	5	1.0%	1.0%	50	900	-5	38	18	8	34.4
26	Claribel Road	Coffee Rd to Oakdale Rd	20,777	85	0	15	1.0%	1.0%	50	900	-5	287	133	62	47.6
27	Claribel Road	McHenry Ave to Coffee Rd	20,463	85	0	15	1.0%	1.0%	55	460	-5	335	155	72	52.9
28	Claribel Road	Oakdale Rd to Roselle Ave	9,831	88	0	12	1.0%	1.0%	50	350	-5	161	75	35	49.9
29	Claribel Road	Roselle Ave to Claus Rd	12,064	88	0	12	1.0%	1.0%	55	520	0	217	101	47	54.3
30	Claribel Road	East of Coffee Road (New Alignment)	21,614	85	0	15	1.0%	1.0%	55	150	-5	347	161	75	60.5
31	Claus Rd	Briggsmore Ave to Orangeburg Ave	50,716	80	0	20	1.0%	1.0%	50	200	-5	585	271	126	62.0
32	Claus Rd	Creekwood Dr to Yosemite Blvd	34,294	80	0	20	1.0%	1.0%	45	80	-5	377	175	81	65.1
33	Claus Rd	Floyd Ave to Orangeburg Ave	33,682	80	0	20	1.0%	1.0%	50	80	0	445	207	96	71.2
34	Claus Rd	North of Sylvan Ave	32,431	80	0	20	1.0%	1.0%	55	240	0	511	237	110	64.9
35	Claus Rd	Scenic Dr to Creekwood Dr	47,857	80	0	20	1.0%	1.0%	45	140	-5	471	218	101	62.9
36	Claus Rd	South of Orangeburg Ave	52,930	80	0	20	1.0%	1.0%	45	85	0	503	234	108	71.6
37	Claus Rd	South of Yosemite Blvd	22,793	85	0	15	1.0%	1.0%	45	75	0	255	119	55	68.0
38	Claus Rd	Sylvan Ave to Floyd Ave	34,852	80	0	20	1.0%	1.0%	50	400	-5	455	211	98	55.8
39	Coffee Road	Briggsmore Ave to Orangeburg Ave	28,835	80	0	20	1.0%	1.0%	40	280	0	276	128	60	59.9
40	Coffee Road	Claratina Ave to Sylvan Ave	15,669	88	0	12	1.0%	1.0%	40	135	0	151	70	33	60.7
41	Coffee Road	Floyd Ave to Briggsmore Ave	26,865	85	0	15	1.0%	1.0%	40	80	0	235	109	51	67.0
42	Coffee Road	South of Orangeburg Ave	22,828	85	0	15	1.0%	1.0%	40	120	0	210	98	45	63.7
43	Coffee Road	Sylvan Ave to Floyd Ave	21,836	85	0	15	1.0%	1.0%	40	95	-5	204	95	44	60.0
44	College Avenue	Briggsmore Ave to Orangeburg Ave	9,310	90	0	10	1.0%	1.0%	35	130	-5	81	38	17	51.9
45	College Avenue	North of Briggsmore Ave	3,755	95	0	5	1.0%	1.0%	35	140	-5	37	17	8	46.3
46	College Avenue	South of Orangeburg Ave	7,773	95	0	5	1.0%	1.0%	35	120	0	60	28	13	55.5
47	Creekwood Drive	Claus Rd to Yosemite Blvd	6,186	95	0	5	1.0%	1.0%	35	85	-5	52	24	11	51.7
48	Dale Road	Kiernan Ave to Pelandale Ave	12,238	88	0	12	1.0%	1.0%	35	45	-5	103	48	22	60.4

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241203
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
49	Dale Road	Pelandale Ave to Standiford Ave	57,039	80	0	20	1.0%	1.0%	35	60	0	352	163	76	71.5
50	Downey Avenue	McHenry Ave to Scenic Dr	21,286	80	0	20	1.0%	1.0%	25	140	-5	121	56	26	54.0
51	El Vista Avenue	Scenic Dr to Yosemite Blvd	54,312	90	0	10	1.0%	1.0%	35	75	0	263	122	57	68.2
52	Floyd Avenue	Coffee Rd to Oakdale Rd	7,465	80	0	20	1.0%	1.0%	30	115	-5	77	36	17	52.4
53	Floyd Avenue	McHenry Ave to Coffee Rd	5,725	95	0	5	1.0%	1.0%	30	70	0	42	19	9	56.6
54	Floyd Avenue	Oakdale Rd to Roselle Rd	7,246	95	0	5	1.0%	1.0%	35	70	-5	57	27	12	53.7
55	Floyd Avenue	Roselle Rd to Claus Rd	3,099	95	0	5	1.0%	1.0%	35	75	0	33	15	7	54.6
56	SR 99	North of Briggsmore Ave	125,520	95	0	5	1.0%	1.0%	65	225	-5	1091	506	235	65.3
57	SR 99	North of Kiernan Ave	46,167	75	0	25	1.0%	1.0%	65	215	-5	959	445	207	64.7
58	SR 99	Pelandale Ave to Standiford Ave	80,513	75	0	25	1.0%	1.0%	65	215	-5	1389	645	299	67.2
59	SR 99	South of Standiford Ave	125,520	75	0	25	1.0%	1.0%	65	235	-5	1868	867	402	68.5
60	SR 99	Briggsmore Ave to Kansas Ave	135,747	75	0	25	1.0%	1.0%	65	310	-5	1968	914	424	67.0
61	SR 99	Kansas Ave to Maze Blvd	146,167	75	0	25	1.0%	1.0%	65	115	-5	2068	960	445	73.8
62	SR 99	Maze Blvd to Paradise Rd	128,577	75	0	25	1.0%	1.0%	65	270	-5	1898	881	409	67.7
63	SR 99	Paradise Rd to Crows Landing Rd	201,270	75	0	25	1.0%	1.0%	65	175	-5	2559	1188	551	72.5
64	SR 99	South of Crows Landing Rd	174,262	75	0	25	1.0%	1.0%	65	525	-5	2325	1079	501	64.7
65	Kansas Avenue	Carpenter Rd to Emerald Ave	14,899	75	0	25	1.0%	1.0%	35	170	-5	159	74	34	54.6
66	Kansas Avenue	Emerald Ave to Needham	18,513	90	0	10	1.0%	1.0%	30	50	-5	109	51	23	60.1
67	Kansas Avenue	West of Carpenter Rd	5,449	90	0	10	1.0%	1.0%	40	115	-5	70	33	15	51.8
68	Kansas Avenue	N. Dakota Rd to Morse Ave	205	95	0	5	1.0%	1.0%	55	200	-5	11	5	2	36.3
69	Kiernan Avenue	SR 99 to Tully Rd	11,201	98	0	2	1.0%	1.0%	55	135	-5	141	66	30	55.3
70	Kiernan Avenue	Tully Rd to McHenry Ave	11,810	95	0	5	1.0%	1.0%	55	270	-5	168	78	36	51.9
71	La Loma Avenue	Scenic Dr to Yosemite Blvd	17,490	95	0	5	1.0%	1.0%	30	90	-5	88	41	19	54.8
72	Maze Boulevard	West of Carpenter Rd	2,022	90	0	10	1.0%	1.0%	50	200	-5	53	24	11	46.3

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241203
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
73	Maze Boulevard	Carpenter Rd to Emerald Ave	3,726	95	0	5	1.0%	1.0%	40	150	-5	46	21	10	47.2
74	Maze Boulevard	Emerald Ave to Needham St	12,565	95	0	5	1.0%	1.0%	35	125	0	83	38	18	57.3
75	Mc Henry Avenue	Briggsmore Ave to Orangeburg Ave	46,050	95	0	5	1.0%	1.0%	30	350	0	167	77	36	55.2
76	Mc Henry Avenue	Kiernan Ave to Pelandale Ave	51,548	95	0	5	1.0%	1.0%	35	150	0	212	98	46	62.3
77	Mc Henry Avenue	Pelandale Ave to Standiford Ave	53,529	95	0	5	1.0%	1.0%	35	200	0	217	101	47	60.5
78	Mc Henry Avenue	South of Orangeburg Ave	50,392	95	0	5	1.0%	1.0%	30	250	-5	177	82	38	52.8
79	Mc Henry Avenue	Standiford Ave to Briggsmore Ave	75,498	95	0	5	1.0%	1.0%	35	260	0	273	127	59	60.3
80	Mitchell Road	South of Yosemite Blvd	50,612	95	0	5	1.0%	1.0%	45	150	-5	315	146	68	59.8
81	Needham Street	Kansas Ave to McHenry Ave	34,305	95	0	5	1.0%	1.0%	25	70	-5	107	50	23	57.8
82	Oakdale Road	Briggsmore Ave to Orangeburg Ave	69,182	95	0	5	1.0%	1.0%	40	175	0	319	148	69	63.9
83	Oakdale Road	Claratina Ave to Sylvan Ave	34,654	95	0	5	1.0%	1.0%	45	75	-5	245	114	53	62.7
84	Oakdale Road	Floyd Ave to Briggsmore Ave	47,349	95	0	5	1.0%	1.0%	40	140	-5	248	115	53	58.7
85	Oakdale Road	South of Orangeburg Ave	68,472	95	0	5	1.0%	1.0%	40	95	0	317	147	68	67.9
86	Oakdale Road	Sylvan Ave to Floyd Ave	37,574	95	0	5	1.0%	1.0%	45	125	-5	258	120	56	59.7
87	Orangeburg Avenue	Briggsmore Ave to Carver Rd	10,120	95	0	5	1.0%	1.0%	40	125	-5	89	41	19	52.8
88	Orangeburg Avenue	Carver Rd to Tully Rd	7,711	95	0	5	1.0%	1.0%	40	125	-5	74	34	16	51.6
89	Orangeburg Avenue	Coffee Rd to Oakdale Rd	6,724	95	0	5	1.0%	1.0%	35	115	-5	55	25	12	50.1
90	Orangeburg Avenue	Coffee Rd to Rose Ave	5,721	95	0	5	1.0%	1.0%	35	120	-5	49	23	11	49.2
91	Orangeburg Avenue	Downey Ave to Coffee Rd	N/A	0	N/A	0	0	#N/A	#N/A	0	0	0	0	0	0
92	Orangeburg Avenue	College Rd to McHenry Ave	6,628	95	0	5	1.0%	1.0%	40	80	-5	67	31	14	53.8
93	Orangeburg Avenue	East of Lakewood Ave	5,049	95	0	5	1.0%	1.0%	35	150	-5	45	21	10	47.2
94	Orangeburg Avenue	Lakewood Ave to Claus Rd	2,899	95	0	5	1.0%	1.0%	35	115	-5	31	14	7	46.5
95	Orangeburg Avenue	McHenry Ave to Coffee Rd	8,429	95	0	5	1.0%	1.0%	40	115	-5	79	36	17	52.5
96	Orangeburg Avenue	Oakdale Rd to Lakewood Ave	4,865	95	0	5	1.0%	1.0%	35	140	-5	44	20	9	47.5

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241203
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
97	Orangeburg Avenue	Oakdale Rd to Sonoma Ave	7,872	95	0	5	1.0%	1.0%	35	125	-5	61	28	13	50.3
98	Orangeburg Avenue	Rose Ave to Oakdale Rd	6,724	95	0	5	1.0%	1.0%	35	135	-5	55	25	12	49.1
99	Orangeburg Avenue	Sonoma Ave to Lakewood Ave	4,865	95	0	5	1.0%	1.0%	35	115	0	44	20	9	53.7
100	Paradise Road	Beverly Dr to MLK Dr	16,063	90	0	10	1.0%	1.0%	35	75	0	117	54	25	62.9
101	Paradise Road	Carpenter Rd to Beverly Dr	10,787	90	0	10	1.0%	1.0%	35	50	-5	89	42	19	58.8
102	Paradise Road	MLK Dr to SR 99	17,213	90	0	10	1.0%	1.0%	25	115	0	81	38	17	57.7
103	Paradise Road	West of Carpenter Rd	1,691	98	0	2	1.0%	1.0%	45	135	-5	28	13	6	44.9
104	Pelandale Avenue	Carver Rd to Tully Ave	32,380	90	0	10	1.0%	1.0%	50	95	-5	335	155	72	63.2
105	Pelandale Avenue	Dale Rd to Prescott Rd	33,741	90	0	10	1.0%	1.0%	50	115	-5	344	160	74	62.1
106	Pelandale Avenue	SR 99 to Sisk Rd	26,359	92	0	8	1.0%	1.0%	45	100	0	228	106	49	65.4
107	Pelandale Avenue	Prescott Rd to Carver Rd	34,494	90	0	10	1.0%	1.0%	50	90	-5	349	162	75	63.8
108	Pelandale Avenue	Sisk Rd to Dale Rd	23,152	90	0	10	1.0%	1.0%	50	100	-5	268	124	58	61.4
109	Prescott Road	North of Pelandale Ave	951	98	0	2	1.0%	1.0%	40	70	-5	16	7	3	45.4
110	Prescott Road	Pelandale Ave to Standiford Ave	4,950	95	0	5	1.0%	1.0%	40	60	-5	55	26	12	54.4
111	Prescott Road	Standiford Ave to Briggsmore Ave	7,612	95	0	5	1.0%	1.0%	40	55	0	73	34	16	61.9
112	Roselle Road	North of Sylvan Ave	18,454	90	0	10	1.0%	1.0%	40	60	0	158	74	34	66.3
113	Roselle Road	Roselle Rd, Sylvan Ave to Floyd Ave	18,105	90	0	10	1.0%	1.0%	45	60	0	190	88	41	67.5
114	Roselle Road	Briggsmore Ave to Orangeburg Ave	13,378	93	0	7	1.0%	1.0%	40	60	0	115	54	25	64.3
115	Roselle Road	Floyd Ave to Briggsmore Ave	26,092	85	0	15	1.0%	1.0%	45	65	-5	279	130	60	64.5
116	Roselle Road	South of Orangeburg Ave	9,087	90	0	10	1.0%	1.0%	40	55	-5	99	46	21	58.8
117	Sisk Road	Kiernan Ave to Pelandale Ave	18,195	85	0	15	1.0%	1.0%	35	60	0	146	68	31	65.8
118	Sisk Road	Sisk Rd, north of Standiford Ave	31,901	85	0	15	1.0%	1.0%	35	45	0	212	99	46	70.1
119	Sisk Road	Pelandale Ave to Standiford Ave	10,559	95	0	5	1.0%	1.0%	40	50	-5	91	42	20	58.9
120	Sisk Road	Standiford Ave to Briggsmore Ave	41,628	80	0	20	1.0%	1.0%	40	50	0	353	164	76	72.7

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-6

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241203
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
121	Standiford Avene	Carver Rd to Tully Rd	22,461	90	0	10	1.0%	1.0%	40	55	-5	181	84	39	62.7
122	Standiford Avene	Dale Rd to Prescott Rd	18,832	90	0	10	1.0%	1.0%	45	65	-5	195	91	42	62.2
123	Standiford Avene	Prescott Rd to Carver Rd	21,924	90	0	10	1.0%	1.0%	40	55	0	178	83	38	67.6
124	Standiford Avene	Tully Rd to McHenry Ave	17,201	92	0	8	1.0%	1.0%	40	60	-5	142	66	30	60.6
125	Sylvan Avenue	Coffee Rd to Oakdale Rd	14,025	92	0	8	1.0%	1.0%	45	55	-5	150	70	32	61.5
126	Sylvan Avenue	McHenry Ave to Coffee Rd	16,875	90	0	10	1.0%	1.0%	45	50	-5	181	84	39	63.4
127	Sylvan Avenue	Oakdale Rd to Roselle Rd	14,883	90	0	10	1.0%	1.0%	50	55	-5	199	93	43	63.4
128	Sylvan Avenue	Roselle Rd to Claus Rd	6,001	95	0	5	1.0%	1.0%	45	65	-5	76	35	16	56.0
129	Tuolumne Boulevard	Paradise Rd to Roselawn Ave	8,534	95	0	5	1.0%	1.0%	35	60	0	64	30	14	60.4
130	Tuolumne Boulevard	Roselawn Ave to SR 99	8,855	95	0	5	1.0%	1.0%	35	60	0	66	30	14	60.6
131	Tully Road	Kiernan Ave to Pelandale Ave	10,386	95	0	5	1.0%	1.0%	45	105	0	110	51	24	60.3
132	Tully Road	Pelandale Ave to Standiford Ave	19,954	90	0	10	1.0%	1.0%	45	50	-5	203	94	44	64.1
133	Tully Road	Standiford Ave to Briggsmore Ave	22,847	90	0	10	1.0%	1.0%	35	60	-5	148	69	32	60.9
134	Yosemite Boulevard	9th St to Santa Rosa Ave	26,697	90	0	10	1.0%	1.0%	40	100	0	203	94	44	64.6
135	Yosemite Boulevard	East of Claus Rd	29,746	90	0	10	1.0%	1.0%	45	70	0	265	123	57	68.7
136	Yosemite Boulevard	Empire Ave to Mitchell Rd	31,067	90	0	10	1.0%	1.0%	35	65	0	181	84	39	66.7
137	Yosemite Boulevard	Lincoln to Claus Rd	27,223	90	0	10	1.0%	1.0%	45	105	0	249	116	54	65.6
138	Yosemite Boulevard	Mitchell Rd to Riverside Dr	28,626	90	0	10	1.0%	1.0%	40	80	0	212	99	46	66.4
139	Yosemite Boulevard	Riverside Dr to Lincoln Ave	30,736	88	0	12	1.0%	1.0%	45	90	-5	287	133	62	62.6
140	Yosemite Boulevard	Santa Rosa Ave to Empire Ave	30,980	88	0	12	1.0%	1.0%	35	150	0	192	89	41	61.6

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-7

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241003
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	7th Street	Paradise Rd to Crows Landing Rd	16,153	88	0	12	1.0%	1.0%	25	350	0	83	38	18	50.6
2	9th Street	Carpenter Rd to Woodland Ave	17,324	88	0	12	1.0%	1.0%	40	50	0	161	75	35	67.6
3	9th Street	D St to River Rd	29,013	88	0	12	1.0%	1.0%	30	50	0	156	72	34	67.4
4	9th Street	L St to D St	13,253	88	0	12	1.0%	1.0%	30	100	-5	93	43	20	54.5
5	9th Street	Needham St to L St	25,116	85	0	15	1.0%	1.0%	30	50	0	154	71	33	67.3
6	9th Street	South of River Rd	19,013	88	0	12	1.0%	1.0%	25	80	0	92	43	20	60.9
7	9th Street	Woodland Ave to Needham St	28,817	82	0	18	1.0%	1.0%	40	50	0	264	123	57	70.8
8	Briggsmore Avenue	Carver Rd to Tully Rd	59,940	80	0	20	1.0%	1.0%	45	55	-5	547	254	118	70.0
9	Briggsmore Avenue	Coffee Rd to Oakdale Rd	64,481	80	0	20	1.0%	1.0%	45	115	-5	574	266	124	65.5
10	Briggsmore Avenue	McHenry Ave to Coffee Rd	59,000	80	0	20	1.0%	1.0%	45	115	-5	541	251	117	65.1
11	Briggsmore Avenue	Oakdale Rd to Roselle Ave	41,492	80	0	20	1.0%	1.0%	45	75	-5	428	199	92	66.3
12	Briggsmore Avenue	Prescott Rd to Carver Rd	61,174	80	0	20	1.0%	1.0%	45	60	-5	554	257	119	69.5
13	Briggsmore Avenue	Roselle Rd to Claus Rd	26,070	88	0	12	1.0%	1.0%	45	75	-5	257	120	55	63.0
14	Briggsmore Avenue	Sisk Rd to Prescott Rd	75,763	75	0	25	1.0%	1.0%	35	200	0	469	218	101	65.6
15	Briggsmore Avenue	Tully Rd to McHenry Ave	63,374	80	0	20	1.0%	1.0%	45	150	-5	567	263	122	63.7
16	Carpenter Road	SR 99 to Kansas Ave	48,947	80	0	20	1.0%	1.0%	40	130	-5	393	183	85	62.2
17	Carpenter Road	Kansas Ave to Maze Blvd	25,499	85	0	15	1.0%	1.0%	40	75	-5	227	105	49	62.2
18	Carpenter Road	Maze Blvd to Paradise Rd	17,808	88	0	12	1.0%	1.0%	40	70	-5	164	76	35	60.6
19	Carpenter Road	South of Paradise Rd	22,980	85	0	15	1.0%	1.0%	40	140	-5	211	98	46	57.7
20	Carver Road	Briggsmore Ave to Orangeburg Ave	6,168	88	0	12	1.0%	1.0%	30	150	-5	56	26	12	48.5
21	Carver Road	South of Orangeburg Ave	6,351	88	0	12	1.0%	1.0%	30	115	-5	57	26	12	50.4
22	Claratina Avenue	Tully Rd to McHenry Ave	40,936	80	0	20	1.0%	1.0%	50	450	0	507	235	109	60.8
23	Claratina Avenue	McHenry Ave to Coffee Rd	40,638	80	0	20	1.0%	1.0%	45	100	-5	422	196	91	64.4
24	Claratina Avenue	Coffee Rd to Oakdale Rd	34,037	80	0	20	1.0%	1.0%	55	55	-5	528	245	114	69.7

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-8

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241003
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
25	Claratina Avenue	Oakdale Rd to Roselle Ave (NewAlignment)	3,195	95	0	5	1.0%	1.0%	50	900	-5	60	28	13	37.3
26	Claribel Road	Coffee Rd to Oakdale Rd	22,853	85	0	15	1.0%	1.0%	50	900	-5	306	142	66	48.0
27	Claribel Road	McHenry Ave to Coffee Rd	23,149	85	0	15	1.0%	1.0%	55	460	-5	363	169	78	53.5
28	Claribel Road	Oakdale Rd to Roselle Ave	10,898	88	0	12	1.0%	1.0%	50	350	-5	172	80	37	50.4
29	Claribel Road	Roselle Ave to Claus Rd	13,471	88	0	12	1.0%	1.0%	55	520	0	234	108	50	54.8
30	Claribel Road	East of Coffee Road (New Alignment)	24,567	85	0	15	1.0%	1.0%	55	150	-5	378	175	81	61.0
31	Claus Rd	Briggsmore Ave to Orangeburg Ave	53,331	80	0	20	1.0%	1.0%	50	200	-5	605	281	130	62.2
32	Claus Rd	Creekwood Dr to Yosemite Blvd	36,870	80	0	20	1.0%	1.0%	45	80	-5	395	184	85	65.4
33	Claus Rd	Floyd Ave to Orangeburg Ave	34,987	80	0	20	1.0%	1.0%	50	80	0	456	212	98	71.3
34	Claus Rd	North of Sylvan Ave	33,069	80	0	20	1.0%	1.0%	55	240	0	518	240	112	65.0
35	Claus Rd	Scenic Dr to Creekwood Dr	50,787	80	0	20	1.0%	1.0%	45	140	-5	490	227	105	63.2
36	Claus Rd	South of Orangeburg Ave	55,511	80	0	20	1.0%	1.0%	45	85	0	520	241	112	71.8
37	Claus Rd	South of Yosemite Blvd	23,397	85	0	15	1.0%	1.0%	45	75	0	260	121	56	68.1
38	Claus Rd	Sylvan Ave to Floyd Ave	36,003	80	0	20	1.0%	1.0%	50	400	-5	465	216	100	56.0
39	Coffee Road	Briggsmore Ave to Orangeburg Ave	30,855	80	0	20	1.0%	1.0%	40	280	0	289	134	62	60.2
40	Coffee Road	Claratina Ave to Sylvan Ave	17,151	88	0	12	1.0%	1.0%	40	135	0	160	74	35	61.1
41	Coffee Road	Floyd Ave to Briggsmore Ave	28,500	85	0	15	1.0%	1.0%	40	80	0	244	113	53	67.3
42	Coffee Road	South of Orangeburg Ave	24,814	85	0	15	1.0%	1.0%	40	120	0	222	103	48	64.0
43	Coffee Road	Sylvan Ave to Floyd Ave	23,569	85	0	15	1.0%	1.0%	40	95	-5	215	100	46	60.3
44	College Avenue	Briggsmore Ave to Orangeburg Ave	9,834	90	0	10	1.0%	1.0%	35	130	-5	84	39	18	52.2
45	College Avenue	North of Briggsmore Ave	3,881	95	0	5	1.0%	1.0%	35	140	-5	38	18	8	46.5
46	College Avenue	South of Orangeburg Ave	8,475	95	0	5	1.0%	1.0%	35	120	0	64	30	14	55.9
47	Creekwood Drive	Claus Rd to Yosemite Blvd	6,580	95	0	5	1.0%	1.0%	35	85	-5	54	25	12	52.0
48	Dale Road	Kiernan Ave to Pelandale Ave	14,043	88	0	12	1.0%	1.0%	35	45	-5	113	53	24	61.0

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-9

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241003
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
49	Dale Road	Pelandale Ave to Standiford Ave	58,974	80	0	20	1.0%	1.0%	35	60	0	360	167	77	71.7
50	Downey Avenue	McHenry Ave to Scenic Dr	22,512	80	0	20	1.0%	1.0%	25	140	-5	126	58	27	54.3
51	El Vista Avenue	Scenic Dr to Yosemite Blvd	55,754	90	0	10	1.0%	1.0%	35	75	0	268	124	58	68.3
52	Floyd Avenue	Coffee Rd to Oakdale Rd	7,955	80	0	20	1.0%	1.0%	30	115	-5	80	37	17	52.7
53	Floyd Avenue	McHenry Ave to Coffee Rd	5,949	95	0	5	1.0%	1.0%	30	70	0	43	20	9	56.8
54	Floyd Avenue	Oakdale Rd to Roselle Rd	7,453	95	0	5	1.0%	1.0%	35	70	-5	58	27	13	53.8
55	Floyd Avenue	Roselle Rd to Claus Rd	3,437	95	0	5	1.0%	1.0%	35	75	0	35	16	8	55.0
56	SR 99	North of Briggsmore Ave	129,674	95	0	5	1.0%	1.0%	65	225	-5	1115	517	240	65.4
57	SR 99	North of Kiernan Ave	47,874	75	0	25	1.0%	1.0%	65	215	-5	982	456	212	64.9
58	SR 99	Pelandale Ave to Standiford Ave	82,797	75	0	25	1.0%	1.0%	65	215	-5	1416	657	305	67.3
59	SR 99	South of Standiford Ave	129,674	75	0	25	1.0%	1.0%	65	235	-5	1909	886	411	68.6
60	SR 99	Briggsmore Ave to Kansas Ave	139,612	75	0	25	1.0%	1.0%	65	310	-5	2005	931	432	67.2
61	SR 99	Kansas Ave to Maze Blvd	149,792	75	0	25	1.0%	1.0%	65	115	-5	2102	976	453	73.9
62	SR 99	Maze Blvd to Paradise Rd	130,575	75	0	25	1.0%	1.0%	65	270	-5	1918	890	413	67.8
63	SR 99	Paradise Rd to Crows Landing Rd	206,836	75	0	25	1.0%	1.0%	65	175	-5	2606	1210	561	72.6
64	SR 99	South of Crows Landing Rd	177,047	75	0	25	1.0%	1.0%	65	525	-5	2349	1091	506	64.8
65	Kansas Avenue	Carpenter Rd to Emerald Ave	15,458	75	0	25	1.0%	1.0%	35	170	-5	163	76	35	54.7
66	Kansas Avenue	Emerald Ave to Needham	19,637	90	0	10	1.0%	1.0%	30	50	-5	113	53	24	60.3
67	Kansas Avenue	West of Carpenter Rd	6,092	90	0	10	1.0%	1.0%	40	115	-5	76	35	16	52.3
68	Kansas Avenue	N. Dakota Rd to Morse Ave	208	95	0	5	1.0%	1.0%	55	200	-5	11	5	2	36.3
69	Kiernan Avenue	SR 99 to Tully Rd	11,524	98	0	2	1.0%	1.0%	55	135	-5	144	67	31	55.4
70	Kiernan Avenue	Tully Rd to McHenry Ave	13,516	95	0	5	1.0%	1.0%	55	270	-5	184	85	40	52.5
71	La Loma Avenue	Scenic Dr to Yosemite Blvd	18,710	95	0	5	1.0%	1.0%	30	90	-5	92	42	20	55.1
72	Maze Boulevard	West of Carpenter Rd	2,668	90	0	10	1.0%	1.0%	50	200	-5	63	29	14	47.5

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-10

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241003
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
73	Maze Boulevard	Carpenter Rd to Emerald Ave	4,492	95	0	5	1.0%	1.0%	40	150	-5	52	24	11	48.0
74	Maze Boulevard	Emerald Ave to Needham St	15,724	95	0	5	1.0%	1.0%	35	125	0	96	45	21	58.3
75	Mc Henry Avenue	Briggsmore Ave to Orangeburg Ave	48,534	95	0	5	1.0%	1.0%	30	350	0	173	80	37	55.4
76	Mc Henry Avenue	Kiernan Ave to Pelandale Ave	53,481	95	0	5	1.0%	1.0%	35	150	0	217	101	47	62.4
77	Mc Henry Avenue	Pelandale Ave to Standiford Ave	56,110	95	0	5	1.0%	1.0%	35	200	0	224	104	48	60.7
78	Mc Henry Avenue	South of Orangeburg Ave	53,044	95	0	5	1.0%	1.0%	30	250	-5	183	85	40	53.0
79	Mc Henry Avenue	Standiford Ave to Briggsmore Ave	78,971	95	0	5	1.0%	1.0%	35	260	0	282	131	61	60.5
80	Mitchell Road	South of Yosemite Blvd	52,206	95	0	5	1.0%	1.0%	45	150	-5	322	149	69	60.0
81	Needham Street	Kansas Ave to McHenry Ave	36,796	95	0	5	1.0%	1.0%	25	70	-5	112	52	24	58.1
82	Oakdale Road	Briggsmore Ave to Orangeburg Ave	72,086	95	0	5	1.0%	1.0%	40	175	0	328	152	71	64.1
83	Oakdale Road	Claratina Ave to Sylvan Ave	38,774	95	0	5	1.0%	1.0%	45	75	-5	264	122	57	63.2
84	Oakdale Road	Floyd Ave to Briggsmore Ave	51,146	95	0	5	1.0%	1.0%	40	140	-5	261	121	56	59.1
85	Oakdale Road	South of Orangeburg Ave	71,111	95	0	5	1.0%	1.0%	40	95	0	325	151	70	68.0
86	Oakdale Road	Sylvan Ave to Floyd Ave	41,704	95	0	5	1.0%	1.0%	45	125	-5	277	129	60	60.2
87	Orangeburg Avenue	Briggsmore Ave to Carver Rd	10,811	95	0	5	1.0%	1.0%	40	125	-5	93	43	20	53.1
88	Orangeburg Avenue	Carver Rd to Tully Rd	8,449	95	0	5	1.0%	1.0%	40	125	-5	79	36	17	52.0
89	Orangeburg Avenue	Coffee Rd to Oakdale Rd	7,125	95	0	5	1.0%	1.0%	35	115	-5	57	26	12	50.4
90	Orangeburg Avenue	Coffee Rd to Rose Ave	5,837	95	0	5	1.0%	1.0%	35	120	-5	50	23	11	49.2
91	Orangeburg Avenue	Downey Ave to Coffee Rd	N/A	0	0	#N/A	#N/A	0	0	0	0	0	0	0	0
92	Orangeburg Avenue	College Rd to McHenry Ave	7,287	95	0	5	1.0%	1.0%	40	80	-5	71	33	15	54.2
93	Orangeburg Avenue	East of Lakewood Ave	5,277	95	0	5	1.0%	1.0%	35	150	-5	46	22	10	47.4
94	Orangeburg Avenue	Lakewood Ave to Claus Rd	3,016	95	0	5	1.0%	1.0%	35	115	-5	32	15	7	46.7
95	Orangeburg Avenue	McHenry Ave to Coffee Rd	9,042	95	0	5	1.0%	1.0%	40	115	-5	82	38	18	52.8
96	Orangeburg Avenue	Oakdale Rd to Lakewood Ave	5,112	95	0	5	1.0%	1.0%	35	140	-5	45	21	10	47.7

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-11

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241003
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
97	Orangeburg Avenue	Oakdale Rd to Sonoma Ave	8,010	95	0	5	1.0%	1.0%	35	125	-5	61	28	13	50.4
98	Orangeburg Avenue	Rose Ave to Oakdale Rd	7,125	95	0	5	1.0%	1.0%	35	135	-5	57	26	12	49.3
99	Orangeburg Avenue	Sonoma Ave to Lakewood Ave	5,112	95	0	5	1.0%	1.0%	35	115	0	45	21	10	53.9
100	Paradise Road	Beverly Dr to MLK Dr	18,438	90	0	10	1.0%	1.0%	35	75	0	128	59	28	63.5
101	Paradise Road	Carpenter Rd to Beverly Dr	12,516	90	0	10	1.0%	1.0%	35	50	-5	99	46	21	59.4
102	Paradise Road	MLK Dr to SR 99	20,446	90	0	10	1.0%	1.0%	25	115	0	91	42	20	58.5
103	Paradise Road	West of Carpenter Rd	2,362	98	0	2	1.0%	1.0%	45	135	-5	36	17	8	46.3
104	Pelandale Avenue	Carver Rd to Tully Ave	34,739	90	0	10	1.0%	1.0%	50	95	-5	351	163	76	63.5
105	Pelandale Avenue	Dale Rd to Prescott Rd	35,866	90	0	10	1.0%	1.0%	50	115	-5	358	166	77	62.4
106	Pelandale Avenue	SR 99 to Sisk Rd	27,782	92	0	8	1.0%	1.0%	45	100	0	237	110	51	65.6
107	Pelandale Avenue	Prescott Rd to Carver Rd	36,688	90	0	10	1.0%	1.0%	50	90	-5	364	169	78	64.1
108	Pelandale Avenue	Sisk Rd to Dale Rd	24,904	90	0	10	1.0%	1.0%	50	100	-5	281	130	61	61.7
109	Prescott Road	North of Pelandale Ave	985	98	0	2	1.0%	1.0%	40	70	-5	16	8	4	45.5
110	Prescott Road	Pelandale Ave to Standiford Ave	5,211	95	0	5	1.0%	1.0%	40	60	-5	57	26	12	54.7
111	Prescott Road	Standiford Ave to Briggsmore Ave	7,995	95	0	5	1.0%	1.0%	40	55	0	76	35	16	62.1
112	Roselle Road	North of Sylvan Ave	20,463	90	0	10	1.0%	1.0%	40	60	0	170	79	37	66.8
113	Roselle Road	Roselle Rd, Sylvan Ave to Floyd Ave	20,043	90	0	10	1.0%	1.0%	45	60	0	203	94	44	68.0
114	Roselle Road	Briggsmore Ave to Orangeburg Ave	14,911	93	0	7	1.0%	1.0%	40	60	0	124	58	27	64.7
115	Roselle Road	Floyd Ave to Briggsmore Ave	28,469	85	0	15	1.0%	1.0%	45	65	-5	296	137	64	64.9
116	Roselle Road	South of Orangeburg Ave	10,458	90	0	10	1.0%	1.0%	40	55	-5	109	50	23	59.4
117	Sisk Road	Kiernan Ave to Pelandale Ave	18,792	85	0	15	1.0%	1.0%	35	60	0	149	69	32	65.9
118	Sisk Road	Sisk Rd, north of Standiford Ave	34,319	85	0	15	1.0%	1.0%	35	45	0	223	104	48	70.4
119	Sisk Road	Pelandale Ave to Standiford Ave	10,985	95	0	5	1.0%	1.0%	40	50	-5	94	43	20	59.1
120	Sisk Road	Standiford Ave to Briggsmore Ave	44,059	80	0	20	1.0%	1.0%	40	50	0	367	170	79	73.0

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

Appendix C-12

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 241003
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
121	Standiford Avene	Carver Rd to Tully Rd	23,488	90	0	10	1.0%	1.0%	40	55	-5	186	86	40	62.9
122	Standiford Avene	Dale Rd to Prescott Rd	19,742	90	0	10	1.0%	1.0%	45	65	-5	201	93	43	62.4
123	Standiford Avene	Prescott Rd to Carver Rd	23,017	90	0	10	1.0%	1.0%	40	55	0	184	85	40	67.9
124	Standiford Avene	Tully Rd to McHenry Ave	18,345	92	0	8	1.0%	1.0%	40	60	-5	148	69	32	60.9
125	Sylvan Avenue	Coffee Rd to Oakdale Rd	15,710	92	0	8	1.0%	1.0%	45	55	-5	162	75	35	62.0
126	Sylvan Avenue	McHenry Ave to Coffee Rd	18,572	90	0	10	1.0%	1.0%	45	50	-5	193	90	42	63.8
127	Sylvan Avenue	Oakdale Rd to Roselle Rd	17,356	90	0	10	1.0%	1.0%	50	55	-5	221	103	48	64.1
128	Sylvan Avenue	Roselle Rd to Claus Rd	6,916	95	0	5	1.0%	1.0%	45	65	-5	84	39	18	56.6
129	Tuolumne Boulevard	Paradise Rd to Roselawn Ave	10,458	95	0	5	1.0%	1.0%	35	60	0	73	34	16	61.3
130	Tuolumne Boulevard	Roselawn Ave to SR 99	10,774	95	0	5	1.0%	1.0%	35	60	0	75	35	16	61.4
131	Tully Road	Kiernan Ave to Pelandale Ave	11,655	95	0	5	1.0%	1.0%	45	105	0	118	55	25	60.8
132	Tully Road	Pelandale Ave to Standiford Ave	21,526	90	0	10	1.0%	1.0%	45	50	-5	213	99	46	64.5
133	Tully Road	Standiford Ave to Briggsmore Ave	24,658	90	0	10	1.0%	1.0%	35	60	-5	155	72	33	61.2
134	Yosemite Boulevard	9th St to Santa Rosa Ave	29,975	90	0	10	1.0%	1.0%	40	100	0	219	102	47	65.1
135	Yosemite Boulevard	East of Claus Rd	31,735	90	0	10	1.0%	1.0%	45	70	0	276	128	60	68.9
136	Yosemite Boulevard	Empire Ave to Mitchell Rd	33,726	90	0	10	1.0%	1.0%	35	65	0	191	89	41	67.0
137	Yosemite Boulevard	Lincoln to Claus Rd	29,727	90	0	10	1.0%	1.0%	45	105	0	265	123	57	66.0
138	Yosemite Boulevard	Mitchell Rd to Riverside Dr	30,556	90	0	10	1.0%	1.0%	40	80	0	222	103	48	66.6
139	Yosemite Boulevard	Riverside Dr to Lincoln Ave	33,088	88	0	12	1.0%	1.0%	45	90	-5	302	140	65	62.9
140	Yosemite Boulevard	Santa Rosa Ave to Empire Ave	33,825	88	0	12	1.0%	1.0%	35	150	0	204	95	44	62.0

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration